16636

RCB
11n

THE ROYAL SOCIE
for the Promoti
OF HEALTH
LIBRARY

MUNICIPALITY OF COLOMBO.

REPORT

XXXIV

OF THE

CHIEF MEDICAL OFFICER OF HEALTH,

FOR THE YEAR

1939.

COLOMBO:
PRINTED AT THE MUNICIPAL PRINTING OFFICE, CEYLON.

1940.

RCB|11n

22501406920

MUNICIPALITY OF COLOMBO.

REPORT

XXXIV

OF THE

CHIEF MEDICAL OFFICER OF HEALTH,

FOR THE YEAR

1939.

COLOMBO:
PRINTED AT THE MUNICIPAL PRINTING OFFICE, CEYLON.
1940.

WELLCOME INSTITUTE
LIBRARY
Coll.
Call
No.
+
AnnRep
WA28
.J58
C71
1939

REPORT OF THE CHIEF MEDICAL OFFICER OF HEALTH FOR 1939.

CONTENTS.

Part I.—Introductory and General Review.

Part II.—Sanitation.

Part III.—Epidemiology and Vital Statistics.

I.—Meteorology.
II.—Population.
III.—Births.
IV.—Deaths.
V.—Principal Causes of Deaths.
VI.—Infant Mortality.
VII.—Maternal Mortality.
VIII.—Infectious Diseases (General).
IX.—Pneumonia.
X.—Phthisis.
XI.—Whooping Cough.
XII.—Bronchitis.
XIII.—Plague.
XIV.—Smallpox.
XV.—Cholera.
XVI.—Enteric Fever.
XVII.—Continued Fever.
XVIII.—Influenza.
XIX.—Malaria and Mosquito Prevention.
XX.—Dysentery.
XXI.—Diarrhœa and Enteritis.
XXII.—Diphtheria.
XXIII.—Measles.
XXIV.—Chickenpox.
XXV.—Mumps.

Part IV.—Maternity and Child Welfare.

ANNEXURES :—

A.—Report of the City Microbiologist.

B.—Report of the City Analyst.

STATISTICAL SUMMARY, 1939.

Mean temperature	80·3°F.
Mean humidity	82 per cent.
Rainfall	97·08 inches
Average rainfall for the previous 10 years	100·65 inches
Area within Municipal Council limits exclusive of lake ...	8,317 acres
Population at Census of 1931	284,155
Estimated mean population for 1939	322,473
Average density per acre	38·8
Number of live births registered	13,106
Birth-rate per 1,000 population	40·6
Birth-rate corrected for non-residents	27·1
Maternal mortality rate per 1,000 births	17·1
Maternal mortality rate corrected for non-residents ...	12·1
Number of infantile deaths	2,032
Infant mortality per 1,000 births	155
Infant mortality rate corrected for non-residents ...	159
Percentage of infantile deaths to total mortality ...	24·3
Number of stillbirths	720
Stillbirth rate per 1,000 births, live and still ...	52·1
Number of deaths	8,356

STATISTICAL SUMMARY, 1939—*contd.*

Crude death-rate per 1,000 population		25·9
Death-rate corrected for non-residents		17·7
Pneumonia	No. of deaths	919
	Death-rate per 1,000 population	2·9
Phthisis	No. of deaths	542
	Death-rate per 1,000 population	1·7
Enteric Fever	No. of deaths	269
	Death-rate per 1,000 population	0·8
Diarrhœa and Enteritis	No. of deaths	766
	Death-rate per 1,000 population	2·4
Dysentery	No. of deaths	145
	Death-rate per 1,000 population	0·4

Part I.—Introductory and General Review.

IT is with great pleasure that I submit the Annual Report of the Public Health Department for the year ending December 31, 1939.

2. *Water Supply.*—The unprecedented drought experienced in the latter half of the year 1938 showed no signs of abatement till late in October, 1939.

In December, 1938, water from Kelani River was drawn and in January, 1939, water from the Kalatuwawa-ela was diverted into the city mains. In the second week of January there were 5·6 inches of rain. This was followed by a very dry spell till the middle of April when we had a few showers. In the second week of May 11·4 inches of rain were recorded and the rain that fell in June, July, and August was of little avail. It was only with the advent of the monsoon in October that we were gradually able to depend solely on the Labugama normal supply.

The people have a peculiar partiality for wells and to some of them any excuse is sufficient to open a new one. The water shortage gave them ample opportunity to ask for permission to do so, but, having very good grounds to believe that many of the enteric cases in the city are due to the indiscriminate use of water from wells, the department was firm in their refusal to grant their request.

3. Reference to the statistical summary will show that the health of the city on the whole has been satisfactory. The birth-rate corrected for non-residents was 27·1 while the death-rate (corrected) was 17·7, the corresponding figures for the previous year being 27·4 and 17·8 respectively.

The infant mortality rate was 159 as against 155 for the previous year. While the maternal mortality rates for the two years 1939 and 1938 were 12·1 and 12·3·

4. INFECTIOUS DISEASES.

Major Infectious Diseases.—There was no single case of the so-called *major infectious* diseases, viz., Cholera, Smallpox, or Plague reported during the course of the year. While Cholera and Smallpox are not endemic diseases but always imported from the Continent, Plague has been with us for a quarter of a century and during the year under review no cases of Plague, human or rat, occurred.

The Annual Report for 1937 of the League of Nations Health Section had the following comments on Plague in Colombo :—

> "From 1931 to 1936 Colombo had the unenviable reputation of notifying more cases of Plague than any other Far Eastern Port."

In view of this it is remarkable that it has been possible within a space of two years to declare the port and the city as free from plague.

Since then it has been with us up to June 1, 1938. The city was declared free of the disease on April 26, 1939.

Other Infectious Diseases.—As compared with the figures for 1938 all infectious diseases showed a lower incidence except in the following :—

		No. of Town Cases, 1938.		No. of Town Cases, 1939.
Chickenpox	...	1,286	...	1,705
Measles	...	468	...	536
Enteric Fever	...	344	...	575
Continued Fever	...	167	...	177
Dysentery	...	428	...	479
Whooping Cough	...	103	...	143

The most important of the above needing any comment are Enteric Fever, Continued Fever, and Dysentery. The latter two have not shown a marked increase whereas Enteric Fever has.

This increased incidence was no doubt due to the shortage in the Labugama Water Supply, which increased the consumption of well-water and put out of commission either partially or wholly the water carriage system of drainage which has been the most potent factor in the reduction of the incidence of Enteric Fever.

However, in cities where Enteric Fever is endemic unaccountable variations in its incidence do occur, but the high rate of 1939 is no doubt due to the drought.

The perpetuation of wells for bathing and other domestic purposes and the postponement of sewer connection of premises are, in my opinion, very important factors in maintaining the incidence of Enteric Fever at a high level.

The same causes that tended to raise the Enteric Fever, Dysentery, and Continued Fever figures should have raised the figures of Diarrhœa and Enteritis. Perhaps they were. Being non-notifiable diseases one cannot be certain but going by the number of deaths the figure for 1939 was almost the same as that for 1938, viz., 766 and 767 deaths respectively.

Tuburculosis (Pulmonary).—During the latter part of 1939 many letters appeared in the press with regard to this subject. They were so frequent, so regular, and spread over a considerable period that one almost began to think of them as a concerted campaign.

However, the fact remains that long before this, Council, through its officers, had had more than one conference with the Government authorities with a view to having the position defined, particularly as regards the hospitalisation primarily of the open cases chiefly from the Colombo slum and congested areas.

This was the first step of a campaign the Council was launching.

The following table gives the tuberculosis death rates of some of the cities in the East :—

Bombay	...	...	1·8 (1938–1939)
Singapore	...	...	2·9 (1938)
Calcutta	...	...	2·9 (1937)
Rangoon	...	...	2·4 (1938)
Colombo	...	...	2·1 (1938) and 2·0 (1939)

From these figures it is apparent that, in spite of the hue and cry, the Colombo figures are comparatively low. There is a distinct disadvantage in any attempt to scare the people. However, I am happy to state that to further anti-tuberculosis measures the Council has decided to get a special tuberculosis officer and it is hoped that he will take up his duties shortly.

Speaking on the situation in England at a Congress held in Margate Dr. Toussaint addressing the Congress stated as follows :—

> "There has been an enormous decline in mortality from all forms of tuberculosis since the decennium 1851–60, when reliable mortality figures first became available. Not only has the tuberculosis mortality fallen, but, in the population as a whole, the mortality has also declined in relation to the mortality from other diseases. We may well be pleased with such a result, and at conference after conference, it is the custom for many to express themselves in eulogistic phrases on this great attainment. The basic causes of the decline, however, which started nearly three-quarters of a century before the full institution of our comprehensive tuberculosis schemes, still remain shrouded in the mists of obscurity. The true epidemiology of tuberculosis remains as elusive as a will-of-the-wisp. We do know, however, that the decline in tuberculosis mortality has proceeded (with the exception of the War years) at one steady rate both before and after the conception of our tuberculosis schemes. The resultant administration has reaped, in full measure, the benefits of this great decline. Critical as statisticians are, the most benevolent of them, however, would not admit, while in no way decrying the value of our tuberculosis schemes, that they have exerted on the decline in mortality an influence which has often been claimed for them. Even since the inauguration of these schemes, the decline has been such as was predicted statistically and no more."

That what he has stated is borne out in Colombo, too, to a greater or less extent, is shown by the following statement giving the number of cases of Phthisis reported, the number of deaths (including deaths of non-residents) and the rate per 1,000 population, since 1911 :—

Year. (a)	No. of Town Cases reported. (b)	No. of Deaths.* (c)	Death-rate per 1,000 Population.* (d)	
1911	585	634	2·96	
1912	755	713	3·14	
1913	759	577	2·88	
1914	771	664	3·12	Average 3·08
1915	892	694	3·16	
1916	806	750	3·42	
1917	713	657	2·84	
1918	1,071	672	2·86	
1919	1,285	705	2·95	Average 2·89
1920	1,361	729	3·02	
1921	1,367	737	3·02	
1922	1,181	640	2·58	
1923	1,343	727	2·90	
1924	1,204	679	2·69	Average 2·46
1925	1,146	719	2·81	
1926	977	587	2·27	
1927	810	594	2·27	
1928	810	597	2·26	
1929	902	593	2·21	Average 2·17
1930	918	583	2·15	
1931	977	648	2·22	
1932	936	577	1·99	
1933	878	679	2·30	
1934	836	773	2·59	Average 2·12
1935	726	560	1·85	
1936	889	674	2·19	
1937	864	678	2·16	
1938	1,023	578	1·82	
1939	907	542	1·68	

* Includes deaths of non-residents.

The number of cases reported (column (b)) shows wide fluctuations. An increase in the number of notifications cannot necessarily indicate a higher incidence, even after due care has been exercised to see that only primary notifications are registered. This experience is not confined to Ceylon. The Chief Medical Officer of Health, Ministry of Health, England, writing on the subject of Tuberculosis in his report on the State of the Public Health in 1938 says :—

> "It is probable that the improved services in the counties for diagnosis and treatment, coupled with greater willingness of patients, which now exists, to accept hospital treatment, may supply the explanation of the increase in notifications. Had the increase been due to higher incidence it would, probably, have been associated with a higher rate of mortality."

Comparison of figures year by year does not give a true conception of the facts as yearly variations can arise for no apparent reason. A quinquennial average is a far better guide and this is given in the very last column from which it will be seen how the mortality rate has been coming down with regularity.

I am attaching greater importance to the mortality rate because it is a far better guide than the rate of incidence which as stated above can be subject to many errors including even non-notification of some cases.

It will be seen that during the quinquennium 1919–1923 there was a large increase in the number of cases reported but the death-rate actually fell from 3·08 in the previous quinquennium to 2·89 for the period referred to.

One has, therefore, to lay greater stress on the mortality figures in order to appreciate the actual position.

Column (c) shows the total number of deaths from Phthisis in the city, including deaths of non-residents, which are to a great extent counterbalanced by the deaths of Colombo residents elsewhere. One could therefore ignore the complication introduced by the deaths of non-residents without vitiating the statistics to any great extent.

The downward trend of the mortality rate would be apparent from these figures. In 1911, with a population of 214,000 there were 634 deaths from Phthisis recorded. In 1939, with a population of 322,000 and greater accuracy in the certification of deaths, there were only 542 deaths from this cause, the lowest *number* on record quite apart from the rate per 1,000 population, and this singularly enough in the very year when a part of the public had raised an alarm no doubt with every good intention, though belated, of spurring thereby those in authority into action.

Unless it is thought that this gradual lowering of the death-rate is entirely fortuitous, it may be assumed that some benign factor or factors have been in operation to produce this result.

That benign factors have been in operation all over the world, Colombo not excepted, cannot be denied and when we come to consider what these factors, that have led to a decline in the mortality rates in spite of what has or has not been done directly, are it is felt that the betterment of the people, with the improvement of the economic conditions and a rise in wages, the development in the housing of the poor, the construction of model dwellings and garden cities, the increase in sanatoria, and above all better food, better general education of the masses and the development of a health concience together with such Ordinances as the Shop Hours' Act, Minimum Wages Bill, &c., all these must be reckoned as the most potent of the factors that have helped us in the past and must help us in the future.

Tuberculosis is as much a social problem as a medical one and probably even more so.

5. *Food Supply.*—Countries without a Pure Food and Drugs Act must ultimately become the dumping ground of all sorts of foodstuffs whose purity at the source of manufacture is questionable.

In the absence of the necessary legal powers there is nothing to prevent a milk vendor selling his milk as pasteurised when it has not been pasteurised at all or when it does not conform to the standards laid down by law under a Pure Food and Drugs Act. Pasteurised milk is bought by those who prefer to drink it without boiling but in this country as things are they would be running a serious risk lulled by a false sense of security.

While we take all precautions by the establishment of proper abattoirs and passing for slaughter only those animals, whose flesh is considered fit for consumption, it is lawful for one to import meat from India or other countries without a certificate of security of any kind. One reason why the importation of goats from India was stopped or limited was the fear of anthrax but there is nothing to prevent the parts of a goat that has died of anthrax in India coming to Ceylon *packed* in ice to be consumed by one and all.

A general practitioner recently told me that he attributed the many vague and chronic digestive troubles his patients suffered from to preservatives in imported foods. This may or may not be the case but the fact remains that foods with much preservatives and colouring matter added to them do come into the country and are prepared locally as well. Though an occasional meal of such foods may not do much harm it does not take much thought to realize that the constant swallowing of such is very likely to lead to various troubles concerned chiefly with the digestive organs.

Drugs, too, can with impunity be adulterated with other cheap and innocuous products thereby making it not only expensive for the purchaser but also useless for the purpose for which it is bought. If on this score we have not suffered much uptodate it speaks a great deal for the honesty of our local drug dealers.

Quinine is one of the drugs that can be adulterated with the greatest of ease and quinine is the sheet anchor against malaria.

Many such instances can be given to show the absolute necessity of a Pure Food and Drugs Act which has been long, long, overdue.

This department as far back as 1912 made a request for such an Act. This request has been made not once but many a time. On each occasion it was turned down for some reason or other.

It has even been thought possible that all control we desire can be had by making by-laws. We do have certain by-laws and powers for the control of certain foods but it would appear to be impracticable to have by-laws made or amended at each turn. All countries of repute have a Pure Food and Drugs Act, no doubt in spite of the fact that they too have powers to make by-laws. Why Ceylon should remain an exception it is difficult to see.

To obtain necessary legislation in the case of Cholera, Smallpox, or Plague is not a difficult matter perhaps because the effects of these diseases are severe and apparent to all, though short-lived, but this slow process of leading to ill-health by the constant use of foods not quite fit for consumption is even of greater concern in the long run. A Pure Food and Drugs Act is an urgent necessity and I trust that the authorities will realize that this is a matter that should not be delayed any longer.

In this connection I would draw attention to the concluding part of the City Analyst's report (Annexure B).

The report of the Special Committee appointed to investigate the question of the Milk Supply of Colombo was submitted during the year and action on the lines suggested is being taken by degrees.

I fear it will be a long time yet before the desired goal is reached but however it is pleasing to be able to say that a beginning has been made.

6. *Crematorium.*—I am happy to be able to record that the construction of a crematorium on modern lines which I urged in my report for the year 1936 has had the consideration of the Council.

The work was commenced in 1939 and it is hoped that it will be in use in a few months' time.

The public will be well advised to use this crematorium in preference to any other form of cremation for it will be very much cheaper. Apart from the cost of the actual burning being considerably lower than the cost of a wood pyre the coffin itself would have to conform to certain regulations necessary to make it burn with the least difficulty. Thus the cost of the coffin itself would be as nothing compared to the expensive caskets now used by many, who do so not so much through necessity as from a false sense of pride and decorum ; and this is so done in spite of the fact that they can ill afford it. The regulations will come to their aid without hurting their pride.

7. *Municipal Dispensaries.*—Two new dispensaries were opened in the course of the year, one in Kollupitiya and the other in Maligawatta in Maradana North thus making a total of eleven. In addition to the appointment of two medical officers for these two dispensaries the Council appointed a third as Relief Medical Officer.

The statement of work done at the Municipal Free dispensaries is appended.

Work done at the Municipal Free Dispensaries, 1939.

Name of Dispensary.	Number of Patients treated.	Number of visits of Patients.	Daily average attendance.	Number of outdoor visits of the Medical Officers.	Number of Persons inoculated against Typhoid.
San Sebastian	17,435	44,152	142	42	47
St. Paul's	11,947	25,212	81	17	53
Mutwal North	17,391	42,567	137	62	124
Mutwal South	20,056	43,909	141	13	67
New Bazaar	28,106	50,987	164	8	162
Maradana North	9,998	23,780	114	3	—
Maradana South	20,178	39,934	130	67	150
Slave Island	12,619	28,558	95	29	—
Kollupitiya	5,927	15,925	74	—	27
Timbirigasyaya	17,472	34,254	110	45	31
Wellawatta	16,099	38,114	123	13	251
Total, 1939	177,228	387,392	1,311	299	912
Total previous year	161,895	334,265	1,124	294	591

8. PLAYGROUNDS.

The Playground Movement started its life under the guidance of the Municipal Engineer.

After 17 years it was placed under the Charity Commissioner, who fathered it for a further period of four years. In April, 1938, they were put under the Chief Medical Officer of Health and in December, 1939, a further change was made by placing them under the care of the Secretary of the Council. Thus for nearly the whole of 1939 they were looked after by the Public Health Department, but I regret to say that nothing of importance could have been done during that period which was covered by the usual routine work of the Instructors supervising games at the various playgrounds.

9. STAFF CHANGES.

Higher Officers.—Dr. C. V. Aserappa, Chief Medical Officer of Health, retired from service during the year and was granted three months' leave preparatory to retirement as from November 1, 1939. Dr. C. H. Gunasekara, Deputy Chief Medical Officer of Health, succeeded him.

Dr. M. D. D. Jayawardena was appointed on January 6, 1939, to the new post of Relieving Dispensary Medical Officer.

Dr. L. D. P. Dharmaratne was appointed on April 17, 1939, to the new dispensary opened in Maradana North.

Dr. E. A. Perera was appointed on April 17, 1939, to Mutwal North dispensary in place of Dr. R. F. W. Alles who was transferred to the new dispensary opened in Kollupitiya Ward.

Subordinate Officers.—Mr. W. Abeydeera, Registration Clerk, was transferred to the Municipal Court as from March 14, 1939. Mr. S. Iyampillai filled the vacancy.

Mr. R. A. Jayasinghe was transferred on promotion to the Municipal Treasurer's Department on June 2, 1939, and Mr. W. J. I. P. Senanayake of that department was appointed to the vacancy.

Mr. H. Weerappah, Sanitary Sub-Inspector, was transferred to a Division II. Clerk's vacancy in the Charity Commissioner's Department on July 19, 1939, in accordance with a decision of Council on certain charges framed against him. Mr. L. G. W. Jayasekera, temporary Sanitary Sub-Inspector, was appointed to the vacancy on November 20, 1939.

Mr. P. Dayasena was appointed on March 1, 1939, apothecary in charge of the new dispensary opened in Kollupitiya Ward.

Mr. W. P. Mendis, Clerk apothecary, was transferred on April 12, 1939, to the new dispensary in Maradana North. Mr. W. R. Emmanuel filled the vacancy.

Retirements.—Messrs. R. C. Mackellar and E. B. Milhuisen, Sanitary Inspectors, retired from service on grounds of ill-health and age and were granted three months' leave prior to retirement as from October 7, 1939, and November 1, 1939, respectively.

Messrs. M. P. Gomes and D. C. Kottachi, Market Supervisors, retired during the year on grounds of ill-health. The resulting vacancies were filled by Messrs. D. P. A. Dissanayake and W. D. Albert as from March 1, 1939.

Resignations.—Public Health Nurses, Mesdames E. M. Alexander and P. E. White resigned from service as from March 23, 1939, and June 1, 1939. The vacancies thus caused were filled by Miss M. de Jonk and Mrs. N. S. A. Sourjah on September 19, 1939.

Deaths.—It is with much regret that I have to record the deaths of the following officers :—

Mr. P. T. de Saram, Sanitary Inspector, on August 20, 1939.

Mr. C. Velayuthan, Apothecary, June 20, 1939.

Military Duty.—The following officers were called out on Military duty during the year and were absent from their civil duties during the period stated against each :—

Mr. N. Schokman, Sanitary Inspector, from September 2 to December 31, 1939.
Mr. P. D. Diaz, Sanitary Inspector, from September 2 to September 30, 1939.
Mr. R. A. Naidu, Market Supervisor, from September 2 to September 30, 1939.
Mr. G. S. Anderson, Market Supervisor, from September 2 to September 30, 1939.
Mr. Q. N. Blacker, Market Supervisor, from September 2 to December 31, 1939.

General.—The Playground Branch was transferred to the Secretary's Department on December 9, 1939, in accordance with a decision of Council and in consequence the cadre of this department was reduced by 1 Chief Playground Instructor and 9 full-time Playground Instructors on that date.

EXPENDITURE, 1939.

Statement of Expenditure, 1939.

Head of Expenditure.	Estimated Expenditure.		Actual Expenditure.		Savings.	
	Rs.	c.	Rs.	c.	Rs.	c
Higher Staff	74,100	0	74,100	0	—	
Clerical Staff	26,088	0	25,682	95	405	5
Sanitary Branch	157,876	0	148,090	82	9,785	18
Maternity and Child Welfare	125,216	0	116,791	75	8,424	25
Dispensaries	149,467	0	130,902	66	18,564	34
Markets	55,489	0	51,143	78	4,345	22
Cemeteries	28,190	0	27,114	36	1,075	64
Laboratory	38,542	0	37,162	38	1,379	62
Analytical Laboratory	3,600*	0	—		3,600	0
Anti-Tuberculosis Campaign	25,000	0	—		25,000	0
Laundries	4,469	0	3,854	28	614	72
Anti-Plague Campaign :—						
(*a*) Plague Prevention	52,644	0	42,444	22	10,199	78
(*b*) Rat Destruction	43,551	0	38,663	0	4,888	0
Health Education and Propaganda	1,500	0	384	75	1,115	25
Playgrounds †	43,172	0	38,063	49	5,108	51
Extraordinary :—						
Anti-Malarial Survey	211	0	132	16	78	84
Total	829,115	0	734,530	60	94,584	40

C. H. GUNASEKARA,
M.R.C.S. (Eng.), L.R.C.P. (Lond.), B.A.(Cantab.),
D.P.H.(Cantab.), F.R.I.P.H. (Lond.),
Chief Medical Officer of Health.

The Town Hall,
Colombo, April 8, 1940.

Part II.—Sanitation.

WE submit herewith our report on the sanitary state of the city for the year ending December 31, 1939.

The city is 8,317 acres in extent. It is composed of 16 wards, and is further zoned for purposes of development into Special Areas. The policy of developing these areas should be in accordance with the purpose for which they were so declared, *e.g.*, encouragement of commercial enterprises in Commercial Areas, &c.

The estimated population of the city was 322,473. Taking all the wards into consideration the number of persons per acre is 38·8. It is well, however, to be aware that this figure does not give a correct idea of the number of persons per acre in the individual wards nor in the slum areas.

The population by wards is shown in statement (2) of Part III.

The figures clearly show the amount of acute congestion that now prevails in areas occupied by the major portion of town dwellers, *i.e.*, the working classes.

During the year 155 buildings were improved and 64 new buildings were constructed ; 59 were demolished.

---

* Rescinded by Municipal Council of April 5, 1939.
† Transferred to Secretary's Department on December 9, 1939.

The key to the question of the high mortality rates in the city continues to be bad housing and poverty. We have not yet been able to provide those essential amenities as in other cities of the world which go to prolong life and diminish suffering. Misery and morbidity are seen in increasing measure as we go down the social scale. The acute poverty that prevails among the vast majority of the community deprives the body of that atmosphere and nutrition so essential to resist disease, and accounts for the low standard of living and insanitary environments, such as bad housing and incredible over crowding.

There is continued pressure in accommodation in the slums due to ingress of people from rural areas and the large foreign population. The shortage of houses for the poorer classes has led to a rapid growth of subletting with further overcrowding.

Improvements to existing buildings are being systematically carried out. Though this has given some relief it has only touched the mere fringe of the whole question.

Though widespread efforts are being made against the incidence and spread of Infectious Diseases the problem of housing the poorer working classes remains and is more acute and difficult than ever. There is insufficient cheap living accommodation available, and consequently serious overcrowding and insanitation must result. These latter spell inevitable disease and degeneration of the race as no one can doubt who has had to deal with the slum conditions in our city.

If and when any schemes are proposed and given effect to provision must necessarily be made for the housing of those displaced. For this purpose, along with the improvement scheme, development of housing estates within city limits will have to go on ; space for which is available in areas, such as Model Farm, Mattakuliya, and Wanathamulla. These areas if developed will provide ideal conditions for the indigenous working classes to live under.

The external sanitary provisions of the city have shown in the last few years vast extension. Water supply and sewerage have been brought to a high standard of efficiency. Food, meat, and milk are to some extent controlled and supervised, but supervision is not possible to the extent desirable.

The conditions reported last year in reference to the sale of food stuffs on kerbs and pavements are much worse. Unless firm action is taken and this abominable practice put an end to without delay conditions are bound to deteriorate further and get out of control.

It needs little imagination to picture the results of such conditions if permitted to continue much longer. Such conditions operate against all preventive measures adopted against the spread and for the reduction of the incidence of various diseases.

Markets.—No new markets have been added during the year. The sanitary condition of the markets was maintained at a high standard, with, of course, St. John's, Kachcheri road, and Edinburgh markets as exceptions, the reasons for which are perfectly clear. It is time that the recommendations made with regard to a central market for the city were given effect to. Without such a central market the existing over crowded and insanitary conditions in the above three markets must continue to flourish. While on the question of markets it is worth considering to which other use some of the vacant stalls in public markets can be put to. The Council has decided to provide its own rice stores ; portions of some of the empty markets can at little cost be made to satisfy the requirements of the Plague Regulations for that purpose.

During the year 150 prosecutions were carried out for the following offences :—

Disorderly conduct in public market ...	55
Obstruction of passages in public market ...	89
Filthy market stall	4
Selling outside stall in public market ...	1
Unregistered market vendor	1

Laundries.—Number of private laundries registered ...	39
Number of private laundries discontinued...	46
leaving a total of	336

The number of Municipal laundries remains the same and they have been well maintained. They are, however, not very popular and are only permanently occupied by men who might be described as master dhobies, *i.e.*, men who employ others to wash for them.

Public Lavatories and Bathing Places.—Our system of public lavatories is far from being a credit to a city like Colombo. They form too prominent a feature and are a blot on the landscape. Lack of privacy in the internal arrangements is an obstacle to their use by a very large proportion of the public. A change in their architectural embellishments and their location underground are points that are worth considering seriously.

There are still a large number of bucket latrines in the city and these are being added to by the construction of new houses in the unsewered areas ; while on the other hand their conversion into the flush-out type is not proceeding as rapidly as could be desired. The early introduction of the water carriage system in all areas is a matter of prime importance. The defects in our existing system of excreta disposal are shown by the continued prevalence of bowel diseases in various parts of the city, in which areas facilities clearly exist for the infection of food and water from that source.

Keeping of Cattle in Residential Areas.—We would again stress the urgency for legislation for the control and supervision of the keeping of cattle in all areas declared residential.

Food Handling Establishments.—There were 450 licensed eating-houses on the register during 1938, of which 39 were discontinued during 1939 and 28 new licences issued, making a total of 439 at the end of the year.

There are in addition large numbers of coffee stalls and tea boutiques which remain unlicensed. These places serve meals to a large proportion of the city's workers and are popular owing to their cheapness. Licensing of these is necessary for better control. It is a matter for reproach that indiscriminate sales of food under the most filthy conditions imaginable along open drains and public footways are permitted to continue. Entire prohibition of this practice is urgently necessary.

The following statement gives the details of inspections done in 1939, the quantities of unwholesome foods seized and destroyed and prosecutions entered :—

Statement A.

Food Stuffs seized by the Food Inspector and Condemned as Unfit.

From Municipal Markets.

Meat	69 lb.
Fish	1 lb.
Lard	½ lb.

From Private Markets.

Sweetmeats	101½ lb.
Jaggery	50 lb.
Stale Bread	10 lb.

Food Stuffs sold on Pavements.

Stale and mouldy bread ...	421 lb.

Tinned Foods, &c., Seized and Condemned.

Ham ...	70 lb.	Herrings ...	207 tins.
Apricots ...	127 lb.	Sardines ...	6 tins.
Figs ...	10 lb.	Dates ...	71 lb.
Pilchards ...	1 tin.	Cheese ...	40 lb.
Salmon ...	16 tins.		

Food Stuffs condemned at H. M. Customs.

Potatoes	... ...	1,245 lb.
Onions	... ...	157 lb.
Dry Fish	... ...	20 lb.

Samples of Food and Drink taken for Examination to the City Analyst.

Milk	217	Butter	2
Fruit drinks	14	Vinegar	1

Prosecutions instituted by the Food Inspector and Amount of Fines.

Offence.	No. of Prosecutions.	Offence.	No. of Prosecutions.
Illicit Milk Vendor	138	Unlicensed Eating-house	7
Adulteration of Milk	62	Unlicensed Dairy	21
Deficiency in Fat	11	Refusing milk sample	1
Food Exposure	25	Escaping from lawful custody	1
Selling Putrid Meat	9	Total fines. Rs. 4,893.	

Statement B.

Food Stuffs seized by the Ward Inspectors and Condemned as Unfit.

From Municipal Markets.

Meat ... ... 3 lb.

From Private Markets.

Meat ... ... 8½ lb.

Samples of Food and Drink taken for Analysis.

Milk ... ... 905 samples.

Food Trades Inspections during the Year 1939.—Number of Inspections.

Ward.	Bakeries.	Dairies.	Eating-houses.	Public Markets.
Fort	72	—*	392	—†
Pettah	72	—*	683	41
San Sebastian	52	—*	162	319
St. Paul's	72	120	114	21
Kotahena	64	107	135	45
Mutwal	155	146	36	233
New Bazaar	57	162	197	52
Maradana North	51	91	378	49
Maradana South	51	—*	366	143
Dematagoda	124	116	196	—†
Slave Island	77	76	428	42
Kollupitiya	56	77	312	78
Cinnamon Gardens	39	21	103	40
Bambalapitiya	36	82	172	78
Timbirigasyaya	39	128	272	—†
Wellawatta	48	72	220	109
By Food Inspector	108	159	574	914
Total	1,173	1,357	4,740	2,211

Bakeries.—There are 51 bakeries in the city and the general sanitary condition continues to be good. Special vigilance is however necessary in order to see that the employees act up to the Regulations.

---

* No Dairies in these wards.

† No Public Markets in these wards.

1,173 inspections were carried out and prosecutions entered as detailed below :—

Unclean Bakery ...	14	Unclean Workmen ...	1

Dairies and Milk Supply.—The total number of licensed dairies was 56. 1,357 inspections were done and defects attended to whenever noticed.

Prosecutions were entered for the following :—

Unclean dairy ...	5	Selling milk below standard...	59
Unregistered dairy ...	24	Unregistered milk vendor ...	262
Keeping cattle in excess of No. allowed ...	4	Refusing sample of milk ...	4
Sale of adulterated milk	133	No name plate on milk cycle...	7

A total number of 217 samples were taken by the Food Inspector and 869 by the Ward Inspectors. Of these, 379 samples or 34·9 per cent. were found below standard and resulted in action in Court.

Three milk bars only have continued in business.

The majority of our licensed dairies are conducted by the Indian Tamil cowmen who are accustomed to a somewhat lower standard of sanitation in the matter of production and handling of milk than what we insist upon. Ever constant supervision is required.

A special drive against illicit dairymen was started and several were detected and dealt with in Court. The difficulty in bringing these men to book lies in obtaining evidence for a successful prosecution. The illicit vendor will continue in large numbers until legal provision is made for the licensing of all milch cattle within city limits.

Aerated Water Manufactories.—Four were licensed for business in 1939 and they have been maintained at a satisfactory standard; samples analyzed show that the waters produced by them are of a high quality.

Recently there have cropped up a few establishments where fruit drinks are produced for local consumption. Some of the drinks were found on analysis to be injurious to health. The producer was warned of the state of affairs and advised of the steps necessary to avoid this risk.

No control over the conditions and mode of production, equipment, ingredients, &c., is possible in the absence of Pure Food legislation.

During the year the Council introduced by-laws for the control of certain trades in which the offensive and dangerous fumes of sulphur are employed in the process of manufacture. Such control was possible until recently only in the case of arecanut curing. Complaints have been received for many years from people in the vicinity of a number of Cinnamon and Cardamom curing establishments in the highly congested San Sebastian area and some relief to them is now possible.

Our endeavour has been to maintain at a satisfactory level the sanitary state of this city and to improve on what has already been achieved. As in the past our work has required continuous application and has been carried out unobtrusively without indulging in stunts or spasmodic efforts in this or that direction.

We gratefully acknowledge the willing co-operation always at our disposal from the entire outdoor and indoor staff.

F. N. JAYAWARDENA,
L.R.C.P. (Lond.), M.R.C.S. (Eng.), D.P.H. (Cantab.),
Medical Officer of Health, Colombo South.

H. RATNARAJAH,
L.R.C.P. (Lond.), M.R.C.S. (Eng.), D.P.H. (Lond.),
Medical Officer of Health, Colombo North.

February 27, 1940.

(1) *List of Premises improved in 1939.*

Ward.	No. of Premises.
Pettah	18, 2nd Fisher's lane.
	20, 2nd Fisher's lane.
	28, 2nd Fisher's lane.
	14–16, 1st Fisher's lane.
	151, Prince street.
San Sebastian	8^{1-5}, Price place.
	10^{1-6}, Price place.
St. Paul's	267, Wolfendhal street.
	201, Wolfendhal street.
	23–36, Kopiawatta lane.
Maradana North	253–269, Piachaud's lane.
	241–243 Skinner's road south.
	271, Skinner's road south.
Slave Island	20–36, Vauxhall street.
	17^{1-6}, Church street.

(2) *Premises demolished by Owners in 1939, after Vacation under a Closing Order.*

Ward.	No. of Premises.
Maradana North	114^{1}, Panchikawatta. 37^{5-7}, St. Anthony's lane. 159/1-6, Maligawatta. 203, Maligawatta. 149, Ketawalamulla lane.
Dematagoda	1,015, III Maradana. 155, Campbell avenue. 163, Campbell avenue. 133, Campbell avenue.
Wellawatta	47, 66th lane, Havelock road.

(3) *New Buildings erected by Owners as a result of Closing Orders obtained.*

St. Paul's	No. 251–253, Wolfendhal street	A large two-storied building in front with 6 tenements and 9 separate kitchens at the back.
	No. 235, Wolfendhal street	7 Separate kitchens provided.
	No. 22–36, Kopiawatta lane	8 Cottages and 6 tenements with attached kitchens.
	No. 35, Kopiawatta lane	4 Tenements with attached kitchens.
Maradana North	No. 8–14, Abeysinharama road	5 Tenements with kitchens behind.
	No. 195–199 Maligawatta	3 Cottages.
	No. 236, Maligawatta	1 Cottage.
	No. 99–101, Maligawatta	1 Two-storied building.
Dematagoda	No. 1,169, III Maradana	3 Tenements with kitchen, bath, &c.
Slave Island	No. 17/1–6, Church street	2 Cottages.
Kollupitiya	No. 15, Alfred House road	3 Bungalows. 5 Cottages.
	Sea avenue, Kollupitiya	3 Cottages.

(4) *Statement of Work done by the Inspector of Insanitary Buildings during the Year 1939.*

1.	Number of plans called for from the Municipal Engineer	21
2.	Number of plans received	24
3.	Number of applications for “closing order”	27
4.	Number of premises certified as unfit for habitation	39
5.	Number of dwellings in (4)	275
6.	Number of “closing orders” issued	24
7.	Number of applications for “closing order” struck off	2
8.	Number of applications for “closing order” pending or laid by	2
9.	Number of prosecutions for allowing premises to be occupied after “closing order”	7
10.	Number of closing notices affixed to buildings	112
11.	Number of premises vacated after “closing order”	6
12.	Number of dwellings under (9) above	36
13.	Number of persons dishoused	119
14.	Number of premises improved or demolished by a “closing order” under section 76 (1) of Ordinance No. 19 of 1915 (Chapter 199)	25
(*a*)	Number of dwellings in (14)	155
(*b*)	Number of rooms demolished in (14)	43
(*c*)	Number of persons dishoused in (14)	161
(*d*)	Number of new doors provided in (14)	42
(*e*)	Number of new windows provided in (14)	62
(*f*)	Number of doors enlarged in (14)	26
(*g*)	Number of rooms cemented in (14)	108
(*h*)	Number of masonry partitions removed in (14)	30
(*i*)	Number of plank partitions removed in (14)	15
(*j*)	Number of rooms in which masonry walls were replaced by trellis	13
(*k*)	Space unroofed in (14) in square feet	1,306
(*l*)	Length of roof raised in feet	450
13.	Amount of fines	Rs. 65

(5) *Statement of Prosecutions and Convictions, 1939.*

Ordinance or By-law.	Offence.	No. of Prosecutions.	*No. of Convictions.
Regulation 46 of regulations framed under sections 2 and 3 of the Quarantine and Prevention of Diseases Ordinance (chapter 173)	Failure to notify case of infectious disease	1	1
Regulation 62 of regulations framed under sections 2 and 3 of the Quarantine and Prevention of Diseases Ordinance (chapter 173)	Leaving residence while suffering from infectious disease	1	—
Regulation 63 of regulations framed under sections 2 and 3 of the Quarantine and Prevention of Diseases Ordinance (chapter 173)	Failure to fill up pits and swamps	1	1
Regulation 74 of regulations framed under sections 2 and 3 of the Quarantine and Prevention of Diseases Ordinance (chapter 173)	Occupying building closed under Plague Regulations	1	1

---

* Includes convictions obtained on prosecutions instituted during the previous year.

Ordinance or By-law.	Offence.	No. of Prosecutions.	* No. of Convictions.
Regulation 89 of regulations framed under sections 2 and 3 of the Quarantine and Prevention of Diseases Ordinance (chapter 173)	Storing rice in unauthorized places	16	16
Section 4 (1) of the Quarantine and Prevention of Diseases Ordinance (chapter 173)	Refusing to allow disinfection of premises	1	—
Section 2 (1) of the Nuisances Ordinance (chapter 180)	Filthy premises	264	249
	Filthy laundry	2	2
	Filthy dairy	5	5
Section 2 (4) of the Nuisances Ordinance (chapter 180)	Nuisance by cattle, swine, &c.,	29	31
Section 2 (8) of the Nuisances Ordinance (chapter 180)	Selling unwholesome food	8	6
Section 4 of the Municipal Dairies and Laundries Ordinance (chapter 184)	Unregistered dairy	3	3
	No name plate on milk cycle	7	6
Section 19 of the Municipal Dairies and Laundries Ordinance (chapter 184)	Unregistered laundry	29	24
Regulation 3 (2) of by-laws framed under section 110 (23*f*) of the Municipal Councils Ordinance (chapter 193)	Causing disturbance in Municipal laundry	4	4
Regulation 3 (4) of by-laws framed under section 110 (23*f*) of the Municipal Councils Ordinance (chapter 193)	Sleeping in laundry	—	1
Regulation 3 (11) of by-laws framed under section 110 (23*f*) of the Municipal Councils Ordinance (chapter 193)	Removing partially laundered clothes	1	1
Regulation 4 of by-laws framed under section 110 (23*f*) of the Municipal Councils Ordinance (chapter 193)	Working in laundry without permit	2	4
Section 178 of the Municipal Councils Ordinance (chapter 193)	Failure to limewash	21	16
Section 184 of the Municipal Councils Ordinance (chapter 193)	Committing nuisance	1	1
Section 212 of the Municipal Councils Ordinance (chapter 193)	Arecanut curing without licence	2	—
Section 213 of the Municipal Councils Ordinance (chapter 193)	Failure to provide privy accommodation	36	24

---

* Includes convictions obtained on prosecutions instituted during the previous year.

Ordinance or By-law.	Offence.	No. of Prosecutions.	* No. of Convictions.
Section 244 of the Municipal Councils Ordinance (chapter 193)	Storing maldive fish without licence	3 ...	3
	Unlicensed dyeing house ...	1 ...	1
Regulation 3 (2) of Malaria Epidemic Regulations, 1935	Failure to prevent mosquito breeding	1 ...	1
	Failure to mosquito proof catchpit...	1 ...	1
Rule 29, chapter VIII. of Municipal Council by-laws..	Digging pits and wells without permission	5 ...	6
Rule 30, chapter VIII. of Municipal Council by-laws..	Causing foul water to flow into M. C. Drain	1 ...	2
Rule 31, chapter VIII. of Municipal Council by-laws..	Failure to dispose of rubbish properly	1 ...	—
Rule 32, chapter VIII. of Municipal Council by-laws..	Manuring grassfield ...	16 ...	15
Rule 2, chapter IX. of Municipal Council by-laws ...	Unregistered eating-house ...	49 ...	38
Rule 4, chapter IX. of Municipal Council by-laws ...	Filthy eating-house ...	68 ...	61
	Filthy bakery	14 ...	13
Rule 13, chapter IX. of Municipal Council by-laws ...	Working in kneading room without apron	1 ...	1
Rule 3 (*d*), chapter XIII. of Municipal Council by-laws..	Disorderly conduct in public market	55 ...	45
Rule 10, chapter XIII. of Municipal Council by-laws..	Filthy private stall ...	1 ...	1
Rule 20, chapter XIII. of Municipal Council by-laws..	Unregistered milk vendor ...	1 ...	1
Rule 26, chapter XIII. of Municipal Council by-laws..	Selling outside stall in public market	1 ...	1
Rule 29, chapter XIII. of Municipal Council by-laws..	Filthy market stall ...	4 ...	4
Rule 34, chapter XIII. of Municipal Council by-laws..	Obstruction of passages in public market	89 ...	77
Rule 39, chapter XIII. of Municipal Council by-laws..	Keeping cattle in excess of number allowed	4 ...	4
Rule 2 (2), chapter XIV. of Municipal Council by-laws..	Exposing food to dust and flies ...	107 ...	85
Rule 3, chapter XIV. of Municipal Council by-laws	Sale of adulterated milk ...	71 ...	68
Rule 5, chapter XIV. of Municipal Council by-laws	Refusing sample of milk ...	3 ...	2
Rule 7, chapter XIV. of Municipal Council by-laws	Unregistered milk vendor ...	124 ...	117
Rule 48, chapter XIV. of Municipal Council by-laws	Selling milk below standard ...	48 ...	46
Rule 10, chapter XVII. of Municipal Council by-laws	Failure to enclose burial ground ...	1 ...	1
	Total ...	1,105	990

---

* Includes convictions obtained on prosecutions instituted during the previous year.

(6) *Work done by the Sanitary Staff during the Year 1939.*

1.	Number of inspections	72,536
2.	Number of premises where sanitary defects were found (*a*) non-structural	1,888
3.	Number of premises where sanitary defects were found (*b*) structural	723
4.	Number of premises where non-structural defects were rectified	1,521
5.	Number of premises where minor structural defects were rectified	626
6.	Number of buildings, other than dwellings, structurally improved	10
7.	Number of insanitary premises scavenged by Public Health Department cleansing gang	9,673
8.	Number of dwellings disinfected	2,221
9.	Number of dwellings limewashed	1,855
10.	Number of wells filled up	28
11.	Number of cesspits filled up	8
12.	Number of notices served under section 2 (1) of Ordinance No. 15 of 1882 : (Filthy premises)	1,067
13.	Number of notices served under section 213 of Ordinance No. 6 of 1910 : (Privy accommodation)	115
14.	Number of notices served under section 180 of Ordinance No. 6 of 1910 : (Filling up stagnant pools, &c.)	3
15.	Number of notices served under section 178 of Ordinance No. 6 of 1910 : (Cleansing and limewashing)	333
16.	Number of notices served under Regulation No. 2 (1) of the Plague Regulations : (Improvement to buildings unfit for human habitation)	—
17.	Number of notices served under section 63 of Plague Regulations : (Filling up wells)	2
18.	Number of milk samples taken under Rule 5, Chapter 14, Municipal by-laws	905
19.	Number of prosecutions	1,105
20.	Number of convictions	990
21.	Number of cases acquitted, withdrawn, or otherwise dealt with	80
22.	Number of cases pending at end of the year	132
23.	Amount of fines	Rs. 11,259

Part III.—Epidemiology and Vital Satistics.

I.—METEOROLOGY.

Temperature.—The mean temperature for the year was 80·3° F. as against 80·7° for the previous year. The maximum monthly mean temperature was recorded in May and the minimum in February.

Rainfall.—The total rainfall for the year was 97·08 inches as recorded at the Colombo Observatory, the figure for the previous year being 64·76 inches. The decennial average was 100·65 inches.

Humidity.—The mean humidity for the year was 82 per cent. as against 81 per cent. for the previous year. The maximum monthly mean humidity was 86 per cent. in October and the minimum 77 per cent. in February and December.

II.—POPULATION.

The estimated mean population for 1939 and the density per acre are shown in the following tables :—

(1) *Population by Race, 1939.*

Race.		Population at Census of February 26, 1931.		Estimated Mean Population, 1939.
All Races	...	284,155	...	322,473
Sinhalese	...	127,927	...	145,179
Tamils	...	65,904	...	74,565
Moors	...	44,240	...	50,206
Burghers	...	15,887	...	18,029
Malays	...	7,022	...	7,968
Europeans	...	3,340	...	3,790
Others	...	20,035	...	22,736

(2) *Density of Population, 1939.*

Ward.		Area in Acres.		Estimated Population,		Density per Acre.
Fort	...	250	...	1,851	...	7·4
Pettah	...	148	...	8,706	...	58·8
San Sebastian	...	124	...	14,951	...	120·5
St. Paul's	...	157	...	26,846	...	170·9
Kotahena	...	690	...	29,667	...	43·0
Mutwal	...	1,026	...	29,022	...	28·2
New Bazaar	...	289	...	29,605	...	102·4
Maradana North	...	681	...	30,907	...	45·4
Maradana South	...	400	...	18,996	...	47·5
Dematagoda	...	692	...	28,686	...	41·5
Slave Island	...	331	...	28,108	...	84·9
Kollupitiya	...	566	...	20,057	...	35·4
Cinnamon Gardens	...	902	...	9,931	...	11·0
Bambalapitiya	...	420	...	11,716	...	27·9
Timbirigasyaya	...	1,013	...	12,034	...	11·9
Wellawatta	...	628	...	19,727	...	31·4
Colombo Town	...	8,317		322,473*		38·8

III.—BIRTHS.

13,106 live births were registered during the year as against 12,304 for the previous year. The rate per 1,000 population was 40·6 the highest on record. The rate corrected for non-residents was 27·1 as against 27·4 for the previous year,

The Malays had the highest birth-rate, viz., 41·9. Burghers and Sinhalese came next with 32·8 and 31·1 respectively.

Cinnamon Gardens ward had the highest birth-rate with St. Paul's, Mutwal, Kotahena, and Maradana North following in the order named.

---

* Includes the "outdoor population" which cannot be assigned to the wards.

STILLBIRTHS.

720 stillbirths were registered as against 710 for the previous year.

The rate per 1,000 births live and still was 52·1 as against 54·6 for the previous year.

The racial distribution of the stillbirths was as follows :—

Race.	No. of Stillbirths.	Race.	No. of Stillbirths.
Sinhalese	519	Europeans	—
Tamils	96	Others	5
Moors	67		
Malays	13	Total	720
Burghers	20		

(3) *Racial Birth-rates, 1939.*

Race.	Birth-rate for the previous Year.	Number of Births for 1939.	Birth-rate for 1939.	Birth-rate for 1939, corrected for non-residents.
All Races	38·6	13,106	40·6	27·1
Sinhalese	55·2	8,619	59·4	31·1
Tamils	24·3	1,860	24·9	23·4
Moors	27·1	1,305	26·0	25·7
Malays	42·4	343	43·0	41·9
Burghers	33·6	597	33·1	32·8
Europeans	20·9	79	20·8	20·3
Others	12·1	303	13·3	12·5

(4) *Birth-rates by Wards, 1939.*

Ward.	Birth-rate per 1,000 Population previous Year.	Number of Births, 1939.	Birth-rate per 1,000 Population, 1939.
Colombo Town	38·6	13,106	40·6
Fort	2·7	2	1·1
Pettah	3·0	25	2·9
San Sebastian	18·9	248	16·6
St. Paul's	23·9	647	24·1
Kotahena	23·4	660	22·2
Mutwal	22·1	656	22·6
New Bazaar	21·4	580	19·6
Maradana North	19·6	612	22·1
Maradana South	16·7	334	17·6
Dematagoda	14·8	372	13·0
Slave Island	19·2	530	18·9
Kollupitiya	10·6	156	7·8
Cinnamon Gardens	37·3	369	37·2
Bambalayitiya	8·3	101	8·6
Timbirigasyaya	17·8	219	18·2
Wellawatta	14·9	353	17·9
Hospitals	—	7,242	—

IV.—DEATHS.

8,356 deaths were registered during the year as against 8,181 for the previous year.

The crude death-rate was 25·9 per 1,000 population as against 25·8 for the previous year. The rate corrected for non-residents was 17·7 the lowest on record.

The Malays had the highest death-rate, Moors, Sinhalese, and Tamils following in the order named.

Mutwal, New Bazaar, and Pettah had the highest death-rates.

(5) *Racial Death-rates, 1939.*

(Per 1,000 Population.)

Race.	Crude Death-rate previous Year.	Number of Deaths, 1939.	Crude Death-rate, 1939.	Death-rate corrected for Non-residents, 1939.	Decrease due to correction.	Death-rate further corrected for Deaths of Colombo Residents in Hospitals outside Colombo.
All Races	25·8	8,356	25·9	17·7	8·2	18·5
Sinhalese	35·4	5,134	35·4	18·9	16·5	—
Tamils	18·7	1,369	18·4	16·3	2·1	—
Moors	20·9	1,176	23·4	22·7	0·7	—
Malays	22·2	194	24·3	23·5	0·8	—
Burghers	15·6	264	14·6	12·0	2·6	—
Europeans	12·3	43	11·3	8·2	3·1	—
Others	9·7	176	7·7	7·1	0·6	—

(6) *Ward Death-rates, 1939.*

(Per 1,000 Population.)

Ward.	Death-rate corrected for Deaths in Hospitals previous Year.	Number of Deaths, 1939.	Crude Death-rate, 1939.	Death-rate corrected for Deaths in Hospitals, 1939.	Increase or Decrease of 1939 rate as compared with the 1938 rate.
Colombo Town	17·8	8,356	25·9	17·7	−0·1
Fort	9·9	22	11·9	15·7	+5·8
Pettah	24·6	23	2·6	20·7	−3·9
San Sebastian	13·4	208	13·9	15·4	+2·0
St. Paul's	13·8	379	14·1	15·0	+1·2
Kotahena	17·4	347	11·7	17·7	+0·3
Mutwal	24·1	557	19·2	24·6	+0·5
New Bazaar	21·7	468	15·8	22·6	+0·9
Maradana North	19·2	406	13·1	19·0	−0·2
Maradana South	20·8	201	10·6	19·8	−1·0
Dematagoda	14·6	236	8·2	16·7	+2·1
Slave Island	19·3	400	14·2	19·5	+0·2
Kollupitiya	8·7	104	5·2	8·6	--0·1
Cinnamon Gardens	7·8	52	5·2	7·6	−0·2
Bambalapitiya	14·6	61	5·5	11·2	−3·4
Timbirigasyaya	12·8	94	7·8	10·3	−2·5
Wellawatta	14·5	141	7·1	13·5	−1·0
Hospitals	—	4,657	—	—	—

(7) *Births and Deaths and Infant Mortality for each Ward of the City of Colombo for the Year 1939.*

WARD.	BIRTHS.										DEATHS.										Number of Infantile Deaths.
	TOTAL BIRTHS.			RACE.							TOTAL DEATHS.			RACE.							
	Persons.	Males.	Females.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.	Persons.	Males.	Females.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.	
Colombo City ...	13,106	6,795	6,309	79	597	8,619	1,860	1,305	343	303	8,356	4,588	3,768	43	264	5,134	1,369	1,176	194	176	2,032
Fort ...	2	2	—	—	1	—	—	—	—	1	22	21	1	9	—	4	4	4	1	—	1
Pettah ...	25	14	11	—	—	2	14	—	3	6	23	19	4	—	1	4	6	3	3	6	4
San Sebastian ...	248	137	111	—	3	47	55	121	9	13	208	106	102	—	2	49	40	111	2	4	54
St. Paul's ...	647	346	301	—	6	143	304	152	7	35	379	219	160	—	4	57	177	117	—	24	103
Kotahena ...	660	331	329	—	39	364	172	56	11	18	347	161	186	1	17	159	115	44	2	9	97
Mutwal ...	656	345	311	—	22	404	118	63	13	36	557	269	288	—	14	382	96	40	11	14	133
New Bazaar ...	580	304	276	—	27	148	83	273	16	33	468	226	242	—	15	128	66	231	9	19	133
Maradana North ...	612	328	282	2	43	219	94	164	72	18	406	193	213	—	11	143	55	152	41	4	122
Maradana South ...	334	163	171	—	7	199	61	44	18	5	201	101	100	4	6	106	32	35	18	—	53
Dematagoda ...	372	200	172	6	23	205	58	50	24	6	236	122	114	—	14	142	21	46	13	—	61
Slave Island ...	530	265	265	—	13	151	102	121	101	42	400	228	172	—	4	123	75	117	62	19	85
Kollupitiya ...	156	79	77	1	5	71	43	27	7	2	104	55	49	4	9	53	22	14	1	1	20
Cinnamon Gardens ...	369	182	187	9	65	193	86	7	1	8	52	28	24	1	5	26	12	5	—	3	11
Bambalapitiya ...	101	51	50	—	13	50	18	13	—	7	61	36	25	1	11	35	10	2	—	2	8
Timbirigasyaya ...	219	99	120	46	5	115	39	5	6	3	94	47	47	7	3	58	20	2	1	3	23
Wellawatta ...	353	187	166	1	36	144	86	63	9	14	141	72	69	—	8	61	34	34	1	3	34
Hospitals (Town) ...	2,879	1,474	1,405	12	193	2,059	411	129	37	38	1,900	1,107	793	4	91	1,156	405	173	22	49	1,090
Hospitals (Untraced) ...	—	—	—	—	—	—	—	—	—	—	97	73	34	—	1	57	26	12	—	1	
Hospitals (Beyond limits)	4,363	2,288	2,075	2	96	4,105	116	17	9	18	2,660	1,505	1,155	12	48	2,391	153	34	7	15	

V.—PRINCIPAL CAUSES OF DEATHS.

Pneumonia, diarrhœal diseases, and tuberculosis were as usual the chief causes of deaths. A further decrease in the number of deaths from pneumonia was recorded, the figures for the last five years being as follows :—

Year.	Total Number of Deaths.	Number of Deaths corrected for Non-residents.
1935	1,174	794
1936	1,127	811
1937	1,298	859
1938	1,051	700
1939	919	641

Deaths from diarrhœal diseases showed a slight increase. The deaths from pulmonery tuberculosis showed a decrease but the deaths from other forms of tuberculosis had increased.

Bronchitis caused less deaths than in the previous year.

Typhoid fever accounted for 269 deaths as against 163 for the previous year.

(8) *Principal Causes of Deaths, 1939.*

Cause of Death.	Number of Deaths.	
Pneumonia (including Broncho-Pneumonia)	919	
Diarrhœa and Enteritis	766	911
Dysentery	145	
Phthisis	542	646
Other Tuberculosis	104	
Congenital Debility	532	
Influenza	366	
Malaria	318	
Typhoid and Paratyphoid Fever	269	
Bronchitis	190	

(9) *Certain Minor Causes of Deaths.*

Cause of Death.	Number of Deaths.
Cancer	170
Diabetes Mellitus	148
Ankylostomiasis	103
Rickets	69
Tetanus	56
Rabies	13
Diphtheria	9
Whooping Cough	5

(10) *Causes of Deaths registered in Colombo Town during the Year 1939.*

Causes of Death.	All Races.	Nationality.						
		Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
All Causes ...	8,356	43	264	5,134	1,369	1,176	194	176
I. Infectious and Parasitic Diseases :—								
1.—Tuberculous Diseases ...	646	1	20	341	129	116	17	22
2.—Venereal Diseases	27	—	2	20	2	2	—	1
3.—Other Infectious and Parasitic Diseases	1,484	7	32	871	240	260	32	42
II. Cancer and other Tumours :—								
1.—Cancer and other Malignant Tumours	170	2	13	106	36	10	2	1
2.—Non-malignant Tumours ...	14	—	1	9	3	1	—	—
III. Rheumatic Diseases, Nutritional Diseases, Diseases of the Endocrine Glands, and other General Diseases :—								
1.—Rheumatic Diseases ...	25	—	1	13	4	7	—	—
2.—Nutritional Diseases ...	218	2	7	129	21	45	9	5
3.—Diseases of the Endocrine Glands	7	—	—	7	—	—	—	—
4.—Other General Diseases ...	—	—	—	—	—	—	—	—
IV. Diseases of the Blood and Blood-making Organs	56	—	1	33	17	4	—	1
V. Chronic Poisoning and Intoxications ...	2	—	—	1	—	—	1	—
VI. Diseases of the Nervous System and of the Organs of Special Sense ...	488	3	24	280	68	84	20	9
VII. Diseases of the Circulatory System ...	630	5	36	350	108	104	13	14
VIII. Diseases of the Respiratory System ...	1,279	7	33	753	238	173	36	39
IX. Diseases of the Digestive System ...	1,038	5	31	656	189	121	18	18
X. Non-venereal Diseases of the Genito-Urinary System and Annexa ...	298	2	6	196	35	44	11	4
XI. Diseases of Pregnancy, Childbirth, and the Puerperal State	224	—	9	158	31	23	2	1
XII. Diseases of the Skin and of the Cellular Tissue	82	—	4	57	13	7	1	—
XIII. Diseases of the Bones and of the Organs of Locomotion	16	—	1	12	2	1	—	—
XIV. Congenital Malformations ...	38	1	2	25	4	3	2	1
XV. Diseases of Early Infancy ...	1,017	1	24	718	140	103	18	13
XVI. Old Age	254	1	13	171	26	35	5	3
XVII. Violent and Accidental Deaths :—								
1.—Suicide	33	—	—	16	12	3	1	1
2.—Homicide	27	—	1	18	4	4	—	—
3.—Judicial Execution ...	8	—	—	6	1	—	—	1
4.—Other Violent and Accidental Deaths	175	6	3	117	34	11	4	—
XVIII. Ill-defined Causes	100	—	—	71	12	15	2	—
I.—INFECTIOUS AND PARASITIC DISEASES.								
1.—Typhoid Fever	269	2	9	190	28	21	8	11
2.—Paratyphoid Fever	—	—	—	—	—	—	—	—
3.—Typhus Fever	—	—	—	—	—	—	—	—
4.—Relapsing Fever (spirillum obermeieri) ...	—	—	—	—	—	—	—	—
5.—Undulant Fever	—	—	—	—	—	—	—	—
6.—Smallpox	—	—	—	—	—	—	—	—
7.—Measles	1	—	—	1	—	—	—	—
8.—Scarlet Fever	—	—	—	—	—	—	—	—
9.—Whooping Cough	5	—	—	2	2	1	—	—
10.—Diphtheria	9	—	—	8	1	—	—	—
11.—Influenza—								
a. With pulmonary complications specified	84	—	2	27	27	23	1	4
b. Without pulmonary complications specified	2-2	—	2	114	34	113	9	10
12.—Cholera	—	—	—	—	—	—	—	—
13.—Dysentery—								
a. Amœbic	36	—	1	22	8	3	1	1
b. Bacillary	81	1	—	56	13	9	—	2
c. Other or unspecified ...	28	—	—	8	11	7	1	1
14.—Plague—								
a. Bubonic	—	—	—	—	—	—	—	—
b. Pneumonic	—	—	—	—	—	—	—	—
c. Septicæmic	—	—	—	—	—	—	—	—
d. Unspecified	—	—	—	—	—	—	—	—

(10) *Causes of Deaths, &c.*—contd.

Causes of Death.	All Races.	Nationality.						
		Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
15.—Erysipelas	5	—	—	5	—	—	—	—
16.—Acute Poliomyelitis and Acute Poliœncephalitis	3	—	—	3	—	—	—	—
17.—Lethargic or Epidemic Encephalitis	—	—	—	—	—	—	—	—
18.—Epidemic Cerebro-Spinal Meningitis	1	—	—	—	1	—	—	—
19.—Glanders	—	—	—	—	—	—	—	—
20.—Anthrax (bacillus anthracis) Malignant Pustule	2	—	—	2	—	—	—	—
21.—Rabies (Hydrophobia)	13	—	—	12	1	—	—	—
22.—Tetanus—								
a. Under one year	7	—	—	4	1	1	—	1
b. One year and over	49	—	1	32	12	4	—	—
23.—Tuberculosis of the Respiratory System	542	1	18	273	111	104	16	19
24.—Tuberculosis of the Meninges and Central Nervous System	21	—	1	16	3	1	—	—
25.—Tuberculosis of the Intestines and Peritoneum	39	—	—	23	10	5	—	1
26.—Tuberculosis of the Vertebral Column	8	—	—	7	—	1	—	—
27.—Tuberculosis of the Bones and Joints (Vertebral Column excepted)—								
a. Tuberculosis of the Bones	—	—	—	—	—	—	—	—
b. Tuberculosis of the Joints	2	—	—	—	—	1	1	—
28.—Tuberculosis of the Skin and Subcutaneous Cellular Tissue	—	—	—	—	—	—	—	—
29.—Tuberculosis of the Lymphatic System (Mesenteric and Retroperitoneal Glands excepted)	5	—	—	2	2	1	—	—
30.—Tuberculosis of the Genito-Urinary System	4	—	—	2	—	2	—	—
31.—Tuberculosis of other Organs	2	—	—	1	—	1	—	—
32.—Disseminated Tuberculosis—								
a. Acute	2	—	1	1	—	—	—	—
b. Chronic	—	—	—	—	—	—	—	—
c. Unspecified	21	—	—	16	3	—	—	2
33.—Leprosy	—	—	—	—	—	—	—	—
34.—Syphilis	24	—	2	17	2	2	—	1
34*a*.-Parangi (Frambœsia Tropicum, Yaws)	—	—	—	—	—	—	—	—
35.—Gonococcus Infection and other Venereal Diseases	3	—	—	3	—	—	—	—
36.—Purulent Infection, Septicæmia (non-puerperal)	20	1	—	10	8	—	—	1
37.—Yellow Fever	—	—	—	—	—	—	—	—
38.—Malaria—								
a. Malarial Fever	299	3	9	198	50	27	7	5
b. Malarial Cachexia	17	—	—	12	2	3	—	—
c. Blackwater Fever	2	—	1	1	—	—	—	—
39.—Other Diseases due to Protozoal Parasites—								
a. Kala-azar	—	—	—	—	—	—	—	—
b. Other diseases under this title	1	—	—	—	1	—	—	—
40.—Ankylostomiasis	103	—	—	73	15	13	1	1
41.—Hydatid Cysts—								
a. Of the Liver	—	—	—	—	—	—	—	—
b. Of other Organs	—	—	—	—	—	—	—	—
42 —Other diseases caused by Helminths	145	—	5	85	21	27	3	4
43.—Mycoses—								
a. Thrush	8	—	—	2	3	1	1	1
b. Psilosis (Sprue or Ceylon Sore Mouth)	8	—	1	1	—	6	—	—
c. Other Mycoses	—	—	—	—	—	—	—	—
44.—Other Infectious and Parasitic Diseases—								
a. Chickenpox	3	—	1	2	—	—	—	—
b. German Measles	—	—	—	—	—	—	—	—
c. Vaccinia	2	—	—	1	—	1	—	—
d. Mumps	—	—	—	—	—	—	—	—
e. Others under this title	1	—	—	—	1	—	—	—
II.—CANCERS AND OTHER TUMOURS.								
45.—Cancer and other Malignant Tumours of the Buccal Cavity and Pharynx	30	—	2	12	13	3	—	—
46.—Cancer and other Malignant Tumours of the Digestive Tract and Peritoneum	58	1	5	37	11	2	1	1
47.—Cancer and other Malignant Tumours of the Respiratory System	6	1	1	3	1	—	—	—
48.—Cancer and other Malignant Tumours of the Uterus	33	—	—	28	4	1	—	—

(10) *Causes of Deaths, &c.*—contd.

Causes of Death.	All Races.	Nationality. Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
49.—Cancer and other Malignant Tumours of other Female Genital Organs	4	—	—	4	—	—	—	—
50.—Cancer and other Malignant Tumours of the Breast	13	—	3	6	2	2	—	—
51.—Cancer and other Malignant Tumours of the Male Genito-Urinary Organs	7	—	—	5	2	—	—	—
52.—Cancer and other Malignant Tumours of the Skin	3	—	—	2	1	—	—	—
53.—Cancer and other Malignant Tumours of other or unspecified Organs	16	—	2	9	2	2	1	—
54.—Non-malignant Tumours—								
a. Female Genital Organs	2	—	—	1	—	1	—	—
b. Other sites	—	—	—	—	—	—	—	—
55.—Tumours of undetermined nature—								
a. Female Genital Organs	2	—	—	2	—	—	—	—
b. Other sites	10	—	1	6	3	—	—	—
III.—RHEUMATIC DISEASES, NUTRITIONAL DISEASES, DISEASES OF THE ENDOCRINE GLANDS, AND OTHER GENERAL DISEASES.								
56.—Acute Rheumatic Fever	16	—	1	10	2	3	—	—
57.—Chronic Rheumatism, Osteoarthritis	9	—	—	3	2	4	—	—
58.—Gout	—	—	—	—	—	—	—	—
59.—Diabetes Mellitus	148	2	3	101	14	20	4	4
60.—Scurvy	—	—	—	—	—	—	—	—
61.—Beri-Beri	1	—	—	—	—	1	—	—
62.—Pellagra	—	—	—	—	—	—	—	—
63.—Rickets	69	—	4	28	7	24	5	1
64.—Osteomalacia	—	—	—	—	—	—	—	—
65.—Diseases of the Parathyroid Glands	—	—	—	—	—	—	—	—
66.—Diseases of the Thymus and Parathyroid Glands—								
a. Simple Goitre	1	—	—	1	—	—	—	—
b. Exopthalmic Goitre	1	—	—	1	—	—	—	—
c. Myxoedema, Cretinism	1	—	—	1	—	—	—	—
d. Tetany	—	—	—	—	—	—	—	—
e. Others under this title	3	—	—	3	—	—	—	—
67.—Diseases of the Thymus Gland	—	—	—	—	—	—	—	—
68.—Diseases of the Adrenals (Addison's Disease not specified as Tuberculosis)	1	—	—	1	—	—	—	—
69.—Other General Diseases	—	—	—	—	—	—	—	—
IV.—DISEASES OF THE BLOOD AND BLOOD-MAKING ORGANS.								
70.—Hæmorrhagic Conditions—								
a. Purpura	2	—	—	2	—	—	—	—
b. Hæmophilia	—	—	—	—	—	—	—	—
71.—Anæmias—								
a. Pernicious Anæmia	11	—	—	4	5	1	—	1
b. Other Anæmias	30	—	—	16	11	3	—	—
72.—Leukæmias and Pseudoleukæmias—								
a. True Leukæmias	10	—	1	8	1	—	—	—
b. Pseudoleukæmias (Hodgkin's Disease)	1	—	—	1	—	—	—	—
73.—Diseases of the Spleen	2	—	—	2	—	—	—	—
74.—Other Diseases of the Blood and Blood-making Organs	—	—	—	—	—	—	—	—
V.—CHRONIC POISONING AND INTOXICATIONS.								
75.—Alcoholism (acute or chronic)	—	—	—	—	—	—	—	—
76.—Chronic Poisoning by other organic substances	—	—	—	—	—	—	—	—
77.—Chronic Poisoning by mineral substances	—	—	—	—	—	—	—	—
a. Lead	1	—	—	—	—	—	1	—
b. Other Chronic Poisoning by mineral substances	1	—	—	1	—	—	—	—
VI.—DISEASES OF THE NERVOUS SYSTEM AND OF THE ORGANS OF SPECIAL SENSE.								
78.—Encephalitis (non-epidemic)	10	—	—	8	2	—	—	—
79.—Meningitis—								
a. Simple Meningitis	51	—	1	36	8	3	1	2
b. Non-epidemic Cerebro-Spinal Meningitis	3	—	—	3	—	—	—	—

(10) *Causes of Deaths, &c.*—contd.

Causes of Death.	All Races.	Nationality.						
		Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
80.—Progressive Locomotor Ataxia (Tabes Dorsalis)	—	—	—	—	—	—	—	—
81.—Other Diseases of the Spinal Cord	8	1	—	2	3	2	—	—
82.—Cerebral Hæmorrhage, Apoplexy, &c.—								
a. Cerebral Hæmorrhage	143	1	11	67	19	35	7	3
b. Cerebral Embolism and Thrombosis	49	—	2	34	4	6	1	2
c. Softening of the Brain	—	—	—	—	—	—	—	—
d. Hemiphlegia and other paralysis of unstated origin	79	—	6	47	7	15	4	—
83.—General Paralysis of the Insane	3	—	—	3	—	—	—	—
84.—Other forms of Insanity	8	—	1	5	1	—	1	—
85.—Epilepsy	9	—	—	8	—	1	—	—
86.—Infantile Convulsions (under 5 years of age)	111	1	1	58	22	21	6	2
87.—Other Diseases of the Nervous System—								
a. Neuritis, Neuralgia	—	—	—	—	—	—	—	—
b. Others under this title	5	—	1	2	2	—	—	—
88.—Diseases of the Eye and Annexa	—	—	—	—	—	—	—	—
89.—Diseases of the Ear and of the Mastoid Process—								
a. Diseases of the Ear	9	—	1	7	—	1	—	—
b. Diseases of the Mastoid Process	—	—	—	—	—	—	—	—
VII.—DISEASES OF THE CIRCULATORY SYSTEM.								
90.—Pericarditis	10	—	—	9	1	—	—	—
91.—Acute Endocarditis—								
a. Specified as Acute	12	—	2	9	—	1	—	—
b. Unspecified (under 45 years of age)	1	—	—	1	—	—	—	—
92.—Chronic Endocarditis, Valvular Disease—								
a. Endocarditis, specified as chronic, and other Valvular Diseases	59	—	5	40	8	6	—	—
b. Endocarditis unspecified (45 years and over)	2	—	—	2	—	—	—	—
93.—Diseases of the Myocardium—								
a. Acute Myocarditis	2	—	—	1	—	1	—	—
b. Chronic Myocarditis and Myocardial degeneration	204	1	7	115	33	39	7	2
c. Myocarditis not returned as acute or chronic	63	2	2	25	12	20	2	—
94.—Diseases of the Coronary Arteries, and Angina Pectoris	123	—	11	55	28	25	—	4
95.—Other Diseases of the Heart	49	1	4	30	9	2	—	3
96.—Aneurysm (except of the Heart)	6	—	—	4	1	—	—	1
97.—Arteriosclerosis (Diseases of the Coronary Arteries excepted)	3	—	—	1	—	—	1	1
98.—Gangrene	41	—	2	28	6	4	—	1
99.—Other Diseases of the Arteries	2	—	—	—	—	1	1	—
100.—Diseases of the Veins (Varices, Hæmorrhoids, Phlebitis, &c.)	12	—	—	4	4	2	—	2
101.—Diseases of the Lymphatic System (Lymphangitis, &c.)	1	—	—	1	—	—	—	—
102.—Idiopathic Anomalies of the blood-pressure	37	1	3	23	5	3	2	—
103.—Other Diseases of the Circulatory System	3	—	—	2	1	—	—	—
VIII.—DISEASES OF THE RESPIRATORY SYSTEM.								
104.—Diseases of the Nasal Fossæ and their Annexa—								
a. Diseases of the Nose	—	—	—	—	—	—	—	—
b. Others under this title	—	—	—	—	—	—	—	—
105.—Diseases of the Larynx	8	—	—	6	—	1	1	—
106.—Bronchitis—								
a. Acute	91	—	—	37	17	28	3	6
b. Chronic	46	—	2	21	9	12	—	2
c. Unspecified (under 5 years of age)	35	—	1	12	8	11	2	1
d. Unspecified (5 years and over)	18	—	—	12	4	2	—	—
107.—Broncho-Pneumonia (including capillary bronchitis)	543	—	18	332	96	64	22	11
108.—Lobar Pneumonia	348	4	5	219	67	32	6	15
109.—Pneumonia, unspecified	28	—	3	15	5	4	1	—

(10) *Causes of Deaths, &c.*—contd.

Causes of Death.	All Races.	Nationality.						
		Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
110.—Pleurisy—								
a. Empyema	31	—	1	23	4	3	—	—
b. Other forms of Pleurisy	9	—	1	5	1	1	—	1
111.—Congestion and Hæmorrhagic Infarct of the Lung, &c.—								
a. Pulmonary Embolism and Thrombosis	4	1	—	2	1	—	—	—
b. Others under this title	51	1	—	31	12	5	—	2
112.—Asthma	31	—	1	12	11	6	1	—
113.—Pulmonary Emphysema	—	—	—	—	—	—	—	—
114.—Other Diseases of the Respiratory System—								
a. Chronic Interstitial Pneumonia, including Occupational Diseases of the Lungs	5	—	1	4	—	—	—	—
b. Others including Gangrene of the Lung	31	1	—	22	3	4	—	1
IX.—DISEASES OF THE DIGESTIVE SYSTEM.								
115.—Diseases of the Buccal Cavity, Pharynx, &c.—								
a. Diseases of the Pharynx and Tonsils	10	—	—	6	2	2	—	—
b. Others under this title	6	—	—	5	—	1	—	—
116.—Diseases of the Œsophagus	1	—	—	1	—	—	—	—
117.—Ulcer of the Stomach or Duodenum—								
a. Ulcer of the Stomach	10	—	1	4	2	2	—	1
b. Ulcer of the Duodenum	7	—	—	2	2	2	1	—
118.—Other Diseases of the Stomach (Cancer excepted)	14	2	—	9	2	1	—	—
119.—Diarrhœa and Enteritis (under 2 years of age)	362	—	14	239	44	50	10	5
120.—Diarrhœa and Enteritis (2 years and over)	404	—	5	254	87	44	7	7
121.—Appendicitis	39	2	1	23	9	1	—	3
122.—Hernia, Intestinal Obstruction—								
a. Hernia	20	—	1	11	4	3	—	1
b. Intestinal Obstruction	44	1	1	29	10	3	—	—
123.—Other Diseases of the Intestines	9	—	—	6	1	2	—	—
124.—Cirrhosis of the Liver—								
a. Specified as alcoholic	10	—	2	3	4	1	—	—
b. Not specified as alcoholic	44	—	3	27	10	4	—	—
125.—Other Diseases of the Liver—								
a. Yellow atrophy of the Liver	3	—	—	3	—	—	—	—
b. Abscess of Liver (Amœbiasis)	23	—	2	12	6	3	—	—
c. Others under this title	1	—	—	1	—	—	—	—
126.—Biliary Calculi	1	—	—	1	—	—	—	—
127.—Other Diseases of the Gall-bladder and biliary passages	9	—	—	7	—	2	—	—
128.—Diseases of the Pancreas	2	—	—	2	—	—	—	—
129.—Peritonitis without specified cause	19	—	1	11	6	—	—	1
X.—NON-VENEREAL DISEASES OF THE GENITO-URINARY SYSTEM AND ANNEXA.								
130.—Acute Nephritis (including unspecified under 10 years of age)	45	1	—	24	5	10	4	1
131.—Chronic Nephritis	117	—	3	69	15	24	4	2
132.—Nephritis unspecified (10 years and over)	22	—	—	16	3	3	—	—
133.—Other Diseases of the Kidneys and Annexa	36	1	2	25	5	1	1	1
134.—Calculi of the Urinary Passages	5	—	—	4	1	—	—	—
135.—Diseases of the Bladder	13	—	—	7	4	2	—	—
136.—Diseases of the Urethra, Urinary Abscess, &c.—								
a. Stricture of the Urethra	4	—	—	4	—	—	—	—
b. Others under this title	6	—	—	5	—	—	1	—
137.—Diseases of the Prostate	22	—	—	20	—	2	—	—
138.—Diseases of the Male Genital Organs not specified as Venereal	12	—	—	8	1	2	1	—
139.—Diseases of the Female Genital Organs not specified as Venereal—								
a. Cysts of the Ovary	3	—	1	2	—	—	—	—
b. Other Diseases of the Ovaries and Diseases of the Tubes and Parametrium	6	—	—	5	1	—	—	—
c. Diseases of the Uterus	6	—	—	6	—	—	—	—
d. Non-puerperal Diseases of the Breast (Cancer excepted)	—	—	—	—	—	—	—	—
e. Other Diseases of the Female Genital Organs	1	—	—	1	—	—	—	—

(10) *Causes of Deaths, &c.*—contd.

Causes of Death.	All Races.	Nationality.						
		Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
XI.—DISEASES OF PREGNANCY, CHILDBIRTH, AND THE PUERPERAL STATE.								
140.—Post-abortive Sepsis	3	—	—	1	2	—	—	—
141.—Abortion not returned as septic	3	—	—	3	—	—	—	—
142.—Ectopic Gestation	3	—	—	2	1	—	—	—
143.—Other Accidents of Pregnancy not including Hæmorrhage	2	—	1	1	—	—	—	—
144.—Puerperal Hæmorrhage—								
a. Placenta Prævia	14	—	1	12	1	—	—	—
b. Other Puerperal Hæmorrhage	20	—	2	14	2	2	—	—
145.—Puerperal Sepsis not returned as post-abortive—								
a. Puerperal Septicæmia and Pyæmia	61	—	1	41	10	9	—	—
b. Puerperal Tetanus	4	—	1	3	—	—	—	—
146.—Puerperal Albuminuria and Convulsions—								
a. Puerperal Convulsions	30	—	—	24	3	2	1	—
b. Puerperal Albuminuria	6	—	1	2	2	1	—	—
147.—Other Toxæmias of Pregnancy	15	—	—	12	1	2	—	—
148.—Puerperal Phlegmasia, Alba Dolens, Embolism, sudden death	—	—	—	—	—	—	—	—
149.—Other Accidents of Childbirth	43	—	1	31	4	5	1	1
150.—Other or unspecified conditions of the Puerperal State—								
a. Puerperal Insanity	7	—	—	5	2	—	—	—
b. Puerperal Diseases of the Breast	—	—	—	—	—	—	—	—
c. Childbirth (unqualified)	13	—	1	7	3	2	—	—
XII.—DISEASES OF THE SKIN AND OF THE CELLULAR TISSUE.								
151.—Carbuncle, Boil	3	—	1	1	1	—	—	—
152.—Cellulitis, Acute Abscess—								
a. Cellulitis	43	—	2	29	7	5	—	—
b. Acute Abscess	11	—	—	8	1	1	1	—
153.—Other Diseases of the Skin and Annexa—								
a. Ulcer, Bedsore	13	—	—	10	2	1	—	—
b. Elephantiasis Arabum	1	—	—	—	1	—	—	—
c. Other diseases under this title	11	—	1	9	1	—	—	—
XIII.—DISEASES OF THE BONES AND ORGANS OF LOCOMOTION.								
154.—Osteomyelitis	4	—	—	2	1	1	—	—
155.—Other Diseases of the Bones (Tuberculosis excepted)	2	—	—	1	1	—	—	—
156.—Diseases of the Joints and other Organs of Locomotion—								
a. Diseases of the Joints (Tuberculosis and Rheumatism excepted)	7	—	1	6	—	—	—	—
b. Diseases of other Organs of Locomotion	3	—	—	3	—	—	—	—
XIV.—CONGENITAL MALFORMATIONS.								
157.—Congenital Malformations (Stillbirths excluded)—								
a. Congenital Hydrocephalus	5	—	1	3	1	—	—	—
b. Congenital Malformations of the Heart	4	1	—	3	—	—	—	—
c. Other Congenital Malformations	29	—	1	19	3	3	2	1
XV.—DISEASES OF EARLY INFANCY.								
158.—Congenital Debility	532	—	7	371	77	59	9	9
159.—Premature Birth	383	1	9	279	51	33	7	3
160.—Injury at Birth	18	—	—	13	1	3	—	1
161.—Other diseases peculiar to Early Infancy—								
a. Atelectasis	5	—	1	2	2	—	—	—
b. Icterus of the new-born	6	—	1	4	1	—	—	—
c. Sclerema	—	—	—	—	—	—	—	—
d. Others under this title	73	—	6	49	8	8	2	—
XVI.—OLD AGE.								
162.—Old Age	254	1	13	171	26	35	5	3

(10) *Causes of Deaths, &c.*—contd.

Causes of Death.	All Races.	Nationality.						
		Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.
XVII.—VIOLENT AND ACCIDENTAL DEATHS.								
163.—Suicide by Solid or Liquid Poisons and Corrosive Substances	8	—	—	5	2	1	—	—
164.—Suicide by Poisonous Gas	—	—	—	—	—	—	—	—
165.—Suicide by Hanging or Strangulation	10	—	—	2	7	1	—	—
166.—Suicide by Drowning	4	—	—	3	1	—	—	—
167.—Suicide by Firearms	—	—	—	—	—	—	—	—
168.—Suicide by Cutting or Piercing Instruments	2	—	—	2	—	—	—	—
169.—Suicide by Jumping from high places	—	—	—	—	—	—	—	—
170.—Suicide by Crushing	2	—	—	1	—	—	1	—
171.—Suicide by other means	7	—	—	3	2	1	—	1
172.—Infanticide (murder of infants less than 1 year of age)	—	—	—	—	—	—	—	—
173.—Homicide by Firearms	1	—	—	1	—	—	—	—
174.—Homicide by Cutting or Piercing Instruments	19	—	1	11	4	3	—	—
175.—Homicide by other means	7	—	—	6	—	1	—	—
176.—Attack by Venomous Animals—								
a. Snake-bite	1	—	—	—	1	—	—	—
b. Insect Stings	—	—	—	—	—	—	—	—
c. Others	1	—	—	1	—	—	—	—
177.—Poisoning by Food	—	—	—	—	—	—	—	—
178.—Accidental Absorption of Irrespirable, Irritating, or Poisonous Gas	1	—	1	—	—	—	—	—
179.—Other Acute Accidental Poisonings not by Gas	3	—	—	2	1	—	—	—
180.—Conflagration	—	—	—	—	—	—	—	—
181.—Accidental Burns (Conflagration excepted)	24	—	—	20	3	1	—	—
182.—Accidental Mechanical Suffocation	1	—	—	—	—	1	—	—
183.—Accidental Drowning	14	2	—	5	4	2	1	—
184.—Accidental Traumatism by Firearms (Wounds of War excepted)	2	—	—	2	—	—	—	—
185.—Accidental Traumatism by Cutting or Piercing Instruments	2	—	—	2	—	—	—	—
186.—Accidental Traumatism by Falls, Crushing, Landslide—								
a. Falls from Trees	22	—	—	14	8	—	—	—
b. Falls from Heights other than Trees	4	—	—	3	1	—	—	—
c. Other Accidental Falls	8	—	—	6	2	—	—	—
d. Crushing by Cart or Carriage	1	—	—	1	—	—	—	—
e. Crushing by Motor Vehicles	35	1	1	26	4	2	1	—
f. Crushing by Railways	7	—	1	4	2	—	—	—
g. Crushing by Landslides	—	—	—	—	—	—	—	—
h. Others under this title	21	3	—	14	2	2	—	—
187.—Cataclysm	—	—	—	—	—	—	—	—
188.—Injuries by Animals (Poisoning by Venomous Bites and Stings excepted)	4	—	—	3	1	—	—	—
189.—Hunger or Thirst	2	—	—	1	—	—	1	—
190.—Excessive Cold	—	—	—	—	—	—	—	—
191.—Excessive Heat	—	—	—	—	—	—	—	—
192.—Lightning	1	—	—	1	—	—	—	—
193.—Electricity (Lightning excepted)	1	—	—	1	—	—	—	—
194.—Other and Unstated Forms of Accidental violence—								
a. Inattention at birth	—	—	—	—	—	—	—	—
b. Others under this title	7	—	—	5	—	1	1	—
195.—Violent deaths of unstated nature (*i.e.*, accidental, suicidal, &c.)	13	—	—	6	5	2	—	—
196.—Wounds of War	—	—	—	—	—	—	—	—
197.—Execution of Civilians by Belligerent Armies	—	—	—	—	—	—	—	—
198.—Judicial Execution	8	—	—	6	1	—	—	1
XVIII.—ILL-DEFINED CAUSES OF DEATHS.								
199.—Sudden death	—	—	—	—	—	—	—	—
200.—Cause of death unstated or ill-defined—								
a. Dropsy	—	—	—	—	—	—	—	—
b. Heart Failure	3	—	—	2	—	1	—	—
c. Pyrexia	41	—	—	18	11	11	1	—
d. Other Ill-defined Diseases	55	—	—	50	1	3	1	—
e. Not specified or unknown	1	—	—	1	—	—	—	—

VI.—INFANT MORTALITY.

The infant mortality rate for the year was 155 per 1,000 births as against 151 for the previous year. The rate corrected for non-residents was 159 as against 155 for the previous year.

Burghers and Moors had higher rates than in the previous year. The rates for Europeans and Sinhalese were the same as in the previous year and the rates for the other races showed a decrease.

New Bazaar, San Sebastian, and Mutwal wards showed the highest rates.

The death-rates from the principal causes did not show any marked change. The rates for digestive diseases and convulsions showed a slight increase.

(11) *Infant Mortality by Race, 1939—Number of Deaths and Rate per 1,000 Births.*

Race.	Rate per 1,000 Births, previous Year.	No. of Infant Deaths, 1939.	Rate per 1,000 Births, 1939.	Increase or Decrease of 1939 rate as compared with 1938 rate.
All Races	151	2,032	155	+ 4
Sinhalese	150	1,295	150	—
Tamils	158	292	157	− 1
Moors	180	292	224	+44
Malays	168	55	160	− 6
Europeans	51	4	51	—
Burghers	72	57	95	+23
Others	143	37	119	−24

(12) *Infant Mortality by Wards, 1939.*

Ward.	Average rate, 1934 to 1938.	Rate per 1,000 Births, 1938.	Rate per 1,000 Births, 1939.	Increase or Decrease of 1939 rate as compared with 1938 rate.
Colombo Town	163	151	155	+ 4
Fort	40	—	500	+500
Pettah	110	154	160	+ 6
San Sebastian	208	183	218	+ 35
St. Paul's	179	149	159	+ 10
Kotahena	186	168	147	− 21
Mutwal	177	155	203	+ 48
New Bazaar	240	222	229	+ 7
Maradana North	203	188	179	− 9
Maradana South	144	141	159	+ 18
Dematagoda	164	130	164	+ 34
Slave Island	196	188	160	− 28
Kollupitiya	114	138	128	− 10
Cinnamon Gardens	63	49	30	− 1
Bambalapitiya	124	125	79	− 46
Timbirigasyaya	189	194	105	− 89
Wellawatta	117	111	93	− 18
Hospitals	161	202	151	− 51

(13) *Principal Causes of Infant Mortality expressed as a Percentage of Total Infant Deaths.*

Cause of Death.	1934.	1935.	1936.	1937.	1938.	Average, 1934-1938.	1939.
Premature Birth and Congenital Debility..	45·9	44·4	39·8	41·2	46·5	43·5	45·1
Pneumonia ...	13·1	11·1	14·4	14·3	12·8	13·2	11·1
Diarrhœal Diseases ...	10·0	9·3	12·1	12·7	12·0	11·2	13·7
Convulsions ...	6·6	9·5	7·3	5·6	3·5	6·5	4·0
Other Causes ...	24·4	25·7	26·4	26·2	25·2	25·6	26·1

(14) *Causes of Infant Mortality, 1929 to 1939—Number of Deaths.*

Cause of Death.	1929.	1930.	1931.	1932.	1933.	Average, 1929-1933.	1934.	1935.	1936.	1937.	1938.	Average, 1934-1938	1939.
Developmental Diseases ...	765	800	728	737	812	768	847	759	721	828	873	806	933
Pneumonia and Bronchitis ...	268	218	252	258	267	253	289	234	333	347	296	300	312
Digestive Diseases ...	242	238	189	192	200	212	220	175	251	277	245	233	305
Convulsions ...	184	168	86	64	100	120	119	157	128	109	65	116	82
Tetanus Neonatorum ...	8	12	12	5	13	10	8	5	3	4	3	5	7
Tuberculosis ...	—	1	—	—	—	0·2	—	—	3	1	4	1·6	8
Syphilis ...	23	28	25	20	27	25	35	23	9	22	20	22	12

(15) *Causes of Infant Mortality, 1929 to 1939—Rate per 1,000 Births.*

Cause of Death.	1929.	1930.	1931.	1932.	1933.	Average, 1929-1933.	1934.	1935.	1936.	1937.	1938.	Average, 1934-1938.	1939.
Developmental Diseases ...	88	87	83	83	85	85	88	75	62	69	71	73	71
Pneumonia and Bronchitis ...	31	24	29	29	28	28	30	23	29	29	24	27	24
Digestive Diseases ...	28	26	22	22	21	24	23	17	22	23	20	21	23
Convulsions ...	21	18	10	7	10	13	12	15	11	9	5	10	6
Tetanus Neonatorum ...	0·3	1·3	1·4	0·6	1·2	1·0	0·8	0·5	0·3	0·3	0·2	0·4	0·5
Tuberculosis ...	—	0·1	—	—	—	—	—	—	0·3	—	—	—	0·6
Syphilis ...	3·0	3·0	3·0	2·3	2·8	2·8	3·7	2·3	0·8	1·8	1·6	2·0	0·9

(16) *Infant Mortality—Deaths at different Age Periods and from Several Causes, 1939.*

Cause of Death.	Age.													Race.							
	Age in Weeks.					Age in Months.															
	1	2	3	4	Total.	2	3	4	5	6	7–9	10–12	Total.	Europeans.	Burghers.	Sinhalese.	Tamils.	Moors.	Malays.	Others.	All Races.
I.- Developmental Diseases :—																					
1. Premature birth ...	317	37	18	4	376	5	—	1	—	—	1	—	7	1	9	279	51	33	7	3	383
2. Atelectasis ...	3	1	1	—	5	—	—	—	—	—	—	—	—	—	1	2	2	—	—	—	5
3. Atrophy and debility	245	43	34	44	366	71	34	17	11	10	21	2	166	—	7	371	77	59	9	9	532
4 Rickets ...	—	—	—	—	—	1	1	1	2	1	4	3	13	—	2	4	—	7	—	—	13
II.–Diseases of Respiratory System :—																					
1. Laryngitis ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2. Croup ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3. Bronchitis ...	2	8	4	3	17	19	8	7	3	8	20	5	70	—	1	35	17	26	2	6	87
4. Pneumonia ...	3	5	2	10	20	36	24	21	20	19	52	33	205	—	6	138	40	27	12	2	225
5 Others ...	—	—	—	—	—	—	—	—	—	2	2	2	6	—	—	5	—	1	—	—	6
III.–Diseases of Digestive System :—																					
1. Diarrhœa & Enteritis	—	10	12	9	31	39	33	34	34	25	47	34	246	1	11	186	28	41	6	4	277
2. Dysentery ...	—	—	—	—	—	—	—	2	—	1	—	—	3	—	—	3	—	—	—	—	3
3. Others ...	4	1	3	2	10	2	1	2	1	1	3	6	16	—	2	15	4	4	1	—	26
IV.–Diseases of Nervous System:—																					
1. Convulsions ...	29	7	6	6	48	11	4	2	1	3	10	3	34	1	1	40	19	15	5	1	82
2. Laryngismus stridulus ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3. Tetanus ...	2	4	—	1	7	—	—	—	—	—	—	—	—	—	—	4	1	1	—	1	7
4. Others ...	—	—	—	—	—	—	—	—	1	—	3	—	4	—	—	4	—	—	—	—	4
V.–Tuberculous Diseases:–																					
1. Tabes mesenterica ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2. Tubercular meningitis ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3. Others ...	—	—	—	—	—	—	1	2	1	—	3	1	8	—	—	5	2	—	—	1	8
VI.–Accidents:—																					
1. Injury ...	15	2	—	1	18	—	—	—	—	—	—	—	—	—	—	13	1	3	—	1	18
2. Umbilical hæmorrhage..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3. Suffocation ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4. Other violence ...	—	—	—	—	—	—	1	—	—	—	1	1	3	—	1	1	—	1	—	—	3
VII.–Infectious Diseases:–																					
1. Smallpox ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2. Chickenpox ...	—	1	—	—	1	1	—	—	—	—	—	—	1	—	1	1	—	—	—	—	2
3. Measles ...	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	1	—	—	—	—	1
4. Whooping cough ...	—	—	—	—	—	1	—	—	—	—	—	—	1	—	—	1	—	—	—	—	1
5. Mumps ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6. Diphtheria ...	—	—	—	—	—	—	—	—	—	1	—	1	2	—	—	1	1	—	—	—	2
7. Influenza ...	2	3	4	5	14	23	17	14	19	17	43	15	148	—	2	60	26	62	5	7	162
8. Malaria ...	—	1	—	—	1	1	—	1	2	4	5	3	16	—	2	14	—	1	—	—	17
VIII.–Syphilis ...	—	—	—	1	1	5	—	2	2	1	1	—	11	—	1	10	1	—	—	—	12
IX.–All other causes ...	93	11	4	4	112	9	9	1	4	4	12	5	44	1	10	102	22	11	8	2	156
Total ...	715	134	88	90	1027	224	133	107	101	97	229	114	1005	4	57	1295	292	292	55	36	2032

VII.—MATERNAL MORTALITY.

The maternal mortality rate corrected for non-residents was the lowest on record, viz., 12·1 as against 12·3 for the previous year and 15·9 the average for the previous five years.

There was a marked fall in the puerperal septicæmia rate, which was 4·3, the lowest on record, as compared with 6·1 for the previous year and 8·5 the average for the previous five years.

There was 1 death from puerperal septicæmia among the cases conducted by Municipal midwives.

Thirty cases of puerperal pyrexia were registered during the year as against 58 for the previous year.

(17) *Maternal Mortality, 1934-1939.*

(Rate per 1,000 Births.)

Cause.	1934.	1935.	1936.	1937.	1938.	Average, 1934 to 1938.	1939.
All causes ...	25·2	27·4	19·3	18·9	16·9	21·5	17·1
All causes (corrected for non-residents)...	20·7	20·1	12·7	13·7	12·3	15·9	12·1
Puerperal Septicæmia	13·9	12·2	9·1	7·4	7·4	10·0	4·7
Puerperal Septicæmia (corrected for non-residents) ...	12·5	11·4	6·9	5·7	6·1	8·5	4·3
Puerperal Hæmorrhage	2·8	2·6	2·1	2·1	2·2	2·4	2·6
Puerperal Convulsions	1·8	3·3	2·3	2·3	1·7	2·3	2·3

VIII.—INFECTIOUS DISEASES (GENERAL).

No cases of smallpox, plague, or cholera occurred in Colombo during the year. There was a general decrease in the incidence of respiratory diseases while the figures for bowel diseases, on the other hand, show an increase over those for the previour year. There was also an increase in the number of cases of chickenpox and measles. Partial failure of the monsoons probably modified the usual influence of meteorological variations on the incidence of these diseases.

The acute water shortage experienced during the previous year was continued into the first quarter of the year under review. Its result in causing recourse to abnormal sources of water supply, and its disturbing effect on the sanitation of the city generally, have no doubt contributed to the increased incidence of intestinal diseases during the year.

(18) *Town Cases of Notifiable Infectious Diseases reported during the Year 1939.*

(Exclusive of Cases in Welikada Jail.)

Disease.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total Town Cases, 1939.	Total Town Cases previous Year.
Plague ...	—	—	—	—	—	—	—	—	—	—	—	—	—	9
Cholera ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smallpox ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chickenpox ...	273	291	330	232	103	90	63	59	54	70	83	57	1,705	1,286
Measles ...	40	36	58	68	59	102	70	38	22	20	8	15	536	468
Diphtheria ...	4	6	12	7	5	11	10	4	3	—	4	2	68	70
Acute Diarrhœa ...	—	—	—	1	1	2	—	—	1	—	—	—	5	5
Enteric Fever ...	29	45	70	47	59	50	65	58	51	40	25	36	575	344
Continued Fever ...	14	17	24	15	27	14	17	13	9	8	11	8	177	167
Phthisis ...	85	78	75	63	79	77	75	103	78	62	71	61	907	1,023
Dysentery ...	57	38	41	39	35	44	68	50	27	48	16	16	479	428
Whooping Cough ...	1	1	6	3	9	7	11	11	20	18	21	35	143	103
Pneumonia ...	81	64	42	33	32	41	58	36	31	27	33	31	509	1,008
Mumps ...	19	43	35	21	20	15	19	15	13	19	10	10	239	485
Puerperal Pyrexia ...	9	6	2	1	2	—	2	1	3	1	1	2	30	58
Cerebro-Spinal Fever ...	—	—	1	—	1	—	—	—	—	—	—	—	2	—
Total ...	612	625	696	530	432	453	458	388	312	313	283	273	5,375	5,454

Infectious Diseases reported from the Prison Hospital in 1939.

Disease.		No. of Cases.	Disease.	No. of Cases.
Dysentery	Amœbic 59 Bacillary 13	72	Measles	26
			Mumps	141
Chickenpox		525	Phthisis	16

IX.—PNEUMONIA.

509 cases of pneumonia were registered during the year, of which 67 cases could not be traced. The rest were investigated by the department. The total number of deaths from all forms of pneumonia was 919. Exclusive of non-residents the figure was 641 representing a rate of 2·0 per 1,000 population as against 2·2 for the previous year.

Every year pneumonia has accounted for the largest number of deaths, but, as shown in Section V., it appears to be gradually losing its dominant position as a dealer of death.

(19) *Pneumonia, 1939.—Monthly Deaths.*

Month.	Total Number of Deaths, 1939.	Number corrected for deaths of non-residents in hospitals, 1939.	Number corrected for non-residents previous year.
January	76	55	64
February	83	73	46
March	95	69	50
April	84	60	52
May	81	51	75
June	87	53	63
July	70	48	51
August	67	51	52
September	55	27	62
October	72	48	78
November	68	46	60
December	81	60	47
Total	919	641	700

(20) *Cases of Pneumonia investigated during 1939.*

Exclusive of Port, Jail, and Outside Cases.

(Distribution by Age and Type.)

Age Period.	Broncho-Pneumonia.	Lobar-Pneumonia.	Scondary Pneumonia.	Not Specified.	Total.
Under 1 year	65	18	2	12	97
1 to 5 years	76	27	7	19	129
5 to 10 years	14	11	1	6	32
10 to 15 years	4	3	2	2	11
15 to 20 years	1	20	2	4	27
20 to 25 years	—	16	1	2	19
25 to 30 years	—	23	2	—	25
30 to 40 years	2	23	2	7	34
40 to 50 years	3	27	1	1	32
50 to 60 years	3	10	1	2	16
60 years and over	6	11	—	3	20
Total	174	189	21	58	442

(21) *Pneumonia, 1939.*

(Distribution by Wards.)

Ward.	No. of Cases.	Ward.	No. of Cases.
Fort	2	Bambalapitiya	2
Pettah	5	Timbirigasyaya	10
San Sebastian	42	Wellawatta	14
St. Paul's	29	Untraced	67
Kotahena	41		
Mutwal	19	Total Town Cases	509
New Bazaar	66		
Maradana North	56	Port	1
Maradana South	26	Beyond limits	28
Dematagoda	32		
Slave Island	57	Total	538
Kollupitiya	39		
Cinnamon Gardens	2		

X.—PHTHISIS.

907 town cases of phthisis were registered as against 1,023 cases for the previous year, representing a case-rate of 2·8 per 1,000 population as against 3·2 for the previous year.

There were 542 deaths from this cause as against 578 for the previous year. Exclusive of non-residents, the figure was 434 as against 456 for the previous year. The crude and corrected death-rates were 1·68 and 1·35 per 1,000 population as against 1·82 and 1·43 for the previous year.

New Bazaar, Mutwal, Maradana North, Slave Island, and Kotahena Wards had the highest incidence.

The morbidity and mortality rates were highest for the age period of 30–40 years. The highest incidence was amongst Malays, with a case-rate of 3·9 per 1,000.

(22) *Phthisis, 1939.*

Number of Cases by Wards.

Ward.	No. of Cases.	Ward.	No. of Cases.
Fort	2	Cinnamon Gardens	11
Pettah	6	Bambalapitiya	9
San Sebastian	31	Timbirigasyaya	11
St. Paul's	45	Wellawatta	28
Kotahena	64	Untraced	274
Mutwal	83		
New Bazaar	89	Total Town Cases	907
Maradana North	71	Port	5
Maradana South	36	Beyond limits	112
Dematagoda	59		
Slave Island	67	Total	1,024
Kollupitiya	21		

(23) *Phthisis, 1939.—Monthly Incidence of Town Cases.*

Month.	No. of Cases.	Month.	No. of Cases.
January	85	September	78
February	78	October	62
March	75	November	71
April	63	December	61
May	79		
June	77	Total ...	907
July	75		
August	103		

(24) *Phthisis Cases reported during the Year 1939.*

Exclusive of Port and Outside Cases.

(Distribution by Race and Age.)

Race.	0–5.	5–10.	10–15.	15–20.	20–25.	25–30.	30–40.	40–50.	50–60.	60 and over.	Total Cases.	Case rate per 1,000 Population
Europeans ...	—	—	—	—	—	1	—	—	—	—	1	0·3
Burghers ...	—	—	1	5	4	4	11	5	9	3	42	2·3
Sinhalese ...	5	8	8	55	78	78	110	64	33	23	462	3·1
Tamils ...	1	3	3	14	25	29	44	32	16	9	176	2·4
Moors ...	2	1	4	9	19	28	41	19	13	10	146	2·9
Malays ...	—	—	—	7	4	8	7	4	1	—	31	3·9
Others ...	1	1	—	1	9	16	12	5	3	1	49	2·2
Total ...	9	13	16	91	139	164	225	129	75	46	907	2·8

(25) *Deaths from Phthisis registered in Colombo during the Year 1939.*

Exclusive of Deaths of Non-residents in Hospitals.

(Distribution by Race and Age.)

Race.	0–5.	5–10.	10–15.	15–20.	20–25.	25–30.	30–40.	40–50.	50–60.	60 and over.	Total.
Europeans... ...	—	—	—	—	—	—	—	—	—	—	—
Burghers	—	—	—	1	—	1	1	5	5	2	15
Sinhalese	3	4	1	10	29	36	41	22	20	14	180
Tamils	1	2	4	4	11	19	25	13	12	13	104
Moors	3	—	2	9	7	13	22	11	10	25	102
Malays	—	—	—	5	2	3	2	3	—	—	15
Others	—	—	—	2	3	—	5	3	3	2	18
Total ...	7	6	7	31	52	72	96	57	50	56	434

XI.—WHOOPING COUGH.

143 town cases of whooping cough were registered as against 103 cases for the previous year.

Almost all the cases were in children under 10 years of age.

Five deaths were registered from this cause.

XII.—BRONCHITIS.

The number of deaths registered was 190 as against 245 for the previous year.

Exclusive of non-residents, the total was 176 as against 184 for the previous year.

Their distribution by type was as follows :—

	Number of Deaths.
Acute Bronchitis	89
Chronic Bronchitis	42
Unspecified (—5 years)	34
Unspecified (+5 years)	11
Total	176

XIII.—PLAGUE.

No cases of human or rat plague were registered during the year. The last case of human plague occurred on June 1, 1938, and the last case of rat plague on August 23, 1938. On April 26, 1939, the city was declared free from plague.

(26) *Number of Structural Improvements effected under Plague Regulations during the Year 1939.*

		Pettah.	St. Paul's.	San Sebastian.	Fort.	Maradana South.	Mutwal.
Total number of premises		27	5	11	1	1	1
Rooms demolished		4	—	—	—	—	—
Partitions removed		6	2	—	—	—	—
Roofs raised		14	2	—	—	—	—
Spaces unroofed		1,048½ sq.ft.	228 sq. ft.	—	—	—	—
New doors		36	8	—	—	—	2
Doors enlarged		3	—	—	—	—	—
New windows		20	12	—	—	—	1
Fanlights		105	6	—	—	—	—
Other aids to light and ventilation...	skylights	27	3	—	—	—	2
	expanded metal panels	4	2	—	—	—	—
	grills	4	7	—	—	—	—
Floors concreted...		24	1	—	—	—	2
Walls concreted or cement plastered		32	3	—	—	—	2
New drains built		—	112 ft.	—	—	—	—
Disused drains filled up		134 ft.	—	—	—	—	—
Covered drains converted to open drains		84 ft.	—	—	—	—	—
Lofts removed		11	2	13	—	—	—
Ceilings removed		10	—	—	—	—	—
Yards paved and cemented		2	—	—	—	—	—
Unauthorized constructions demolished		5	—	—	—	—	—
Mud walls replaced		29	—	—	—	—	—
New facades		10	—	—	—	—	—

St. Paul's.—Three tenements demolished under plague regulations.

(27) *Statement showing Storage of Grain in the City.*

Number of grain shops provided with bins of the approved type at December 31, 1939 :—

Ward.		No. of Shops Storing over 15 Bags.		No. of Shops Storing 15 Bags and under.		No. of B Storing in Approved Stores.		No. of C Storing in Approved Bins.
A.		B.		C.		D.		E.
Fort	...	Nil.	...	1	...	Nil.	...	1
Pettah	...	Nil.	...	52	...	Nil.	...	52
St. Paul's	...	Nil.	...	153	...	Nil.	...	153
San Sebastian	...	24	...	91	...	24	...	90
Slave Island	...	Nil.	...	97	...	Nil.	...	96

(28) *Work done by the Anti-Plague Staff in 1939.*

(*a*) *By Fumigation Gang.*

Ward.	No. of dwellings "Calcid" gassed.	No. of Rat-holes "Calcid" gassed.	No. of Rats killed by "Calcid" gas.	No. of Rats killed by Labourers.	No. of dead Rats found.	No. of Mummified Rats found.	No. of Rat-nests found.	No. of Dwellings Pesterined.	No. of Dwellings Disinfected.	No. of Dwellings unroofed.	Merchandise "Calcid" gassed.		No. of cart-loads of Rubbish removed.
											No. of Bags of Grain.	No. of Packages.	
Fort ...	6	9	23	—	—	—	—	—	—	—	—	1,200	—
Pettah ...	1,172	2,346	9,440	163	7	1	271	36	2,342	181	131,702	18,412	496
San Sebastian	178	410	853	5	—	—	42	—	253	36	2,637	948	129
St. Paul's...	662	1,871	2,516	56	—	1	167	—	1,197	131	12,601	5,983	219
Kotahena ...	11	63	22	—	1	—	—	—	—	1	—	—	—
Mutwal ...	221	280	411	2	—	—	10	—	325	—	805	—	60
New Bazaar	22	82	17	—	—	—	2	3	4	1	—	—	—
Maradana North ...	43	144	127	11	—	—	—	—	114	—	—	50	9
Maradana South ...	121	639	921	3	—	—	1	—	538	100	470	—	79
Dematagoda ..	234	498	341	5	—	—	—	—	397	50	301	25	75
SlaveIsland	3	75	15	—	—	2	—	—	—	—	—	—	—
Kollupitiya	4	78	7	—	—	—	—	—	—	—	—	—	—
Cinnamon Gardens..	131	384	161	—	—	—	—	—	—	—	—	—	13
Bambalapitiya ...	34	141	9	—	—	—	—	—	—	—	—	—	—
Timbirigasyaya ...	—	4	—	—	—	—	—	—	—	—	—	—	—
Wellawatta	—	7	—	—	—	—	—	—	—	—	—	—	—
Total ...	2,842	7,031	14,863	245	8	4	493	39	5,170	500	148,516	26,618	1,080

(29) *Work done by the Anti-Plague Staff in 1939.*

(*b*) *By Trapping Gang.*

Month.	No. of Rats trapped.	Month.	No. of Rats trapped.
January	10,371	September ...	8,499
February	9,239	October... ...	9,106
March	9,227	November ...	9,281
April	8,196	December ...	8,870
May	9,006		
June	8,686	Total ...	108,914
July	9,290		
August	9,143		

(30) *Number of Rats trapped at Chalmers Granaries, Manning Markets, and Customs Premises in 1939.*

Month.	Chalmers Granaries and Manning Markets.		Customs Premises.	
	No. of Rats trapped.	No. of dead Rats found.	No. of Rats trapped.	No. of dead Rats found.
January ...	58 ...	9 ...	101 ...	—
February ...	17 ...	2 ...	121 ...	—
March ...	26 ...	4 ...	64 ...	—
April ...	9 ...	— ...	77 ...	—
May ...	18 ...	— ...	47 ...	—
June ...	9 ...	— ...	60 ...	—
July ...	18 ...	2 ...	79 ...	—
August ...	15 ...	1 ...	96 ...	—
September ...	9 ...	7 ...	75 ...	—
October ...	25 ...	10 ...	102 ...	1
November ...	17 ...	— ...	118 ...	—
December ...	25 ...	1 ...	117 ...	—
Total ...	246	36	1,057	1

XIV.—SMALLPOX.

No cases of smallpox occurred during the year. The last case was recorded on February 25, 1937.

XV.—CHOLERA.

No cases of cholera were recorded during the year, the last case having occurred on March 4, 1935.

XVI.—ENTERIC FEVER.

575 town cases of enteric fever were registered as against 344 for the previous year, representing a case-rate of 1·78 per 1,000 population as against 1·08 for the previous year.

The crude and corrected death-rates were 0·83 and 0·49 per 1,000 population respectively as against 0·51 and 0·28 for the previous year.

One of the contributory causes of the increased incidence of enteric fever was the acute water shortage experienced during the year, which, by increasing the consumption of well water, and affecting the working of the drainage system, must necessarily have had its effect on so sensitive an index of general sanitation.

(31) *Incidence of Enteric Fever by Wards, 1939.*

Ward.	No. of Cases, 1939.	Case-rate per 1,000 Population, 1939.	Case-rate per 1,000 Population, previous year.
Fort	—	—	—
Pettah	3	0·34	0·58
San Sebastian	12	0·80	0·34
St. Paul's	20	0·75	0·23
Kotahena	53	1·82	0·99
Mutwal	56	1·90	1·64
New Bazaar	55	1·86	0·75
Maradana North	51	1·70	0·88
Maradana South	18	0·95	0·86
Dematagoda	64	2·23	1·31
Slave Island	92	3·30	2·27
Kollupitiya	21	1·05	0·96
Cinnamon Gardens	8	0·81	0·41
Bambalapitiya	2	0·17	0·78
Timbirigasyaya	14	1·16	0·67
Wellawatta	27	1·37	0·82
Hospitals and Government Institutions	3	—	—
Untraced	76	—	—
Total	575	1·78	1·08

XVII.—CONTINUED FEVER.

177 cases of continued fever were registered during the year as against 167 for the previous year.

There were 41 deaths.

The distribution of cases by wards is shown below.

(32) *Continued Fever Cases,—1939.*

(Incidence by Wards.)

Ward.	Number of Cases, 1939.	Number of Cases, previous Year.
Fort	—	—
Pettah	—	5
San Sebastian	10	4
St. Paul's	7	9
Kotahena	24	22
Mutwal	8	17
New Bazaar	31	21
Maradana North	11	7
Maradana South	7	5
Dematagoda	10	7
Slave Island	28	29
Kollupitiya	7	6
Cinnamon Gardens	1	3
Bambalapitiya	2	2
Timbirigasyaya	4	7
Wellawatta	7	6
Hospitals and Government Institutions	1	—
Untraced	19	17
Total Town Cases	177	167

XVIII.—INFLUENZA.

15,973 cases of influenza were treated at the Municipal Free Dispensaries as against 14,317 cases for the previous year.

There were 366 deaths from this cause representing a rate of 1·13 per 1,000 population as against 1·24 for the previous year.

(33) *Cases of Influenza treated at the Municipal Free Dispensaries in 1939.*

Month.	Slave Island.	St. Paul's.	Maradana South.	Mutwal South.	Mutwal North.	Wellawatta.	San Sebastian.	Timbirigasyaya.	Kollupitiya.	Maradana North.	New Bazaar.	Total.
January ...	146	107	29	152	15	32	82	205	—	—	149	917
February ...	169	117	13	198	20	22	69	146	—	—	142	896
March ...	109	112	22	159	21	34	82	117	—	—	181	837
April ...	90	120	104	127	32	34	64	119	3	—	294	987
May ...	149	133	40	154	122	66	98	186	29	302	260	1,539
June ...	157	171	69	237	62	37	105	222	13	352	278	1,703
July ...	138	201	59	219	92	73	103	162	10	332	240	1,629
August ...	87	179	21	253	60	173	91	114	7	455	240	1,680
September ..	48	133	17	151	51	30	80	122	13	409	141	1,195
October ...	62	182	35	177	43	33	73	129	33	389	162	1,318
November...	58	161	50	213	29	29	91	66	19	453	168	1,337
December...	107	262	52	234	43	41	114	57	95	641	289	1,935
Total ...	1,320	1,878	511	2,274	590	604	1,052	1,645	222	3,333	2,544	15,973

XIX.—MALARIA AND MOSQUITO PREVENTION.

Twenty-five locally infected cases of malaria were investigated during the year. Their distribution by wards was as follows :—

Ward.	No of Cases.
Pettah	3
San Sebastian	1
St. Paul's	1
Kotahena	1
New Bazaar	1
Maradana North	4
Maradana South	5
Dematagoda	3
Slave Island	2
Cinnamon Gardens	4
Total ...	25

8,747 cases of malaria were treated at the Municipal Free Dispensaries as against 6,969 for the previous year.

There were 318 deaths from this cause, of which 149 were non-residents.

1,238 complaints of mosquito nuisance were attended to during the year as against 1,080 for the previous year.

The following is a summary of the work done :—

Number of premises visited	9,508
Number of potential breeding places dealt with ...	91,900
Number of actual breeding places dealt with ...	12,561

(34) *Identification of Anophelene Larvae Species, 1939.*

	A. Hyrcanus.	A. Subpiotus.	A. Vagus.	A. Jamesi.	A. Barbirostris.	A. Tesselatus.
Armour street	—	13	—	—	—	—
Vincent street	—	47	—	—	—	—
Gnanawimala road	2	—	—	—	—	—
Drieberg's lane	—	15	—	—	—	—
Skinner's road south	—	2	—	—	—	—
Temple lane	—	11	—	—	—	—
Temple road	2	15	2	—	1	2
Wekanda mills	—	19	—	—	—	—
Stag lane	—	32	—	—	—	—
Jawatta road	10	16	—	6	—	—

Disinfection and Cleansing.

Number of van loads of clothing, &c., disinfected	176
Number of articles included in above	3,586
Number of dwellings disinfected :—	
(*a*) by Sanitary staff	2,221
(*b*) by Plague staff	5,170
Number of premises scavenged by the Public Health Department Cleansing Gang	9,673

XX.—DYSENTERY.

479 town cases were registered, exclusive of 72 Jail cases. The number of deaths corrected for non-residents was 90 as against 77 for the previous year.

The distribution by type of the cases and deaths was as follows :—

	No. of Cases.	No. of Deaths.
Amœbic	192	23
Bacillary	130	42
Not specified	157	25
Total	479	90

The crude and corrected death-rates were 0·45 and 0·28 per 1,000 population.

(35) *Dysentery Cases, 1939.*

(Monthly Incidence of Town Cases, exclusive of Jail Cases.)

Month.	Number of Cases.
January	57
February	38
March	41
April	39
May	35
June	44
July	68
August	50
September	27
October	48
November	16
December	16
Total	479

(36) *Dysentery Cases, 1939.*

(Incidence by Wards.)

Ward.	Number of Cases.
Fort ...	2
Pettah ...	4
San Sebastian	11
St. Paul's	24
Kotahena	39
Mutwal ...	23
New Bazaar	32
Maradana North	41
Maradana South	20
Dematagoda	33
Slave Island	15
Kollupitiya	18
Cinnamon Gardens	18
Bambalapitiya	12
Timbirigasyaya	13
Wellawatta	33
Hospitals and Government Institutions	25
Untraced	116
Total town cases	479
Port ...	3
Beyond limits	102
Total number of cases reported	584

XXI.—DIARRHŒA AND ENTERITIS.

766 deaths from diarrhœa and enteritis were registered as against 767 for the previous year. There were 362 deaths of children under 2 years from this cause.

Exclusive of non-residents the number of deaths was 575 as against 585 for the previous year.

The crude and corrected death-rates per 1,000 population were 2·38 and 1·78 respectively.

XXII.—DIPHTHERIA.

Sixty-eight cases of diphtheria were registered as against 70 cases for the previous year.

There were 4 deaths from this cause, exclusive of 5 deaths of non-residents in hospitals.

XXIII.—MEASLES.

There were 536 cases of measles, exclusive of 26 Jail cases, as against 468 for the previous year.

There was one death due to secondary pneumonia following measles.

XXIV.—CHICKENPOX.

1,705 town cases were reported, exclusive of 525 Jail cases, as against 1,286 for the previous year. As usual, the largest number of cases occurred in Slave Island Ward.

There were 2 deaths from this cause, exclusive of 1 death of a non-resident.

XXV.—MUMPS.

239 town cases were registered, exclusive of 141 Jail cases, as against 485 for the previous year. There were no deaths from this cause.

L. E. J. POULIER,
L.R.C.P. (Lond.), M.R.C.S. (Eng.), D.P.H. (Lond.),
Medical Officer of Health, Epidemiology & Vital Statistics.

March 4, 1940.

Part IV.—Maternity and Child Welfare.

REPORT OF THE MEDICAL OFFICER, MATERNITY AND CHILD WELFARE, FOR 1939.

I HAVE the honour to submit to you the following report of the work done by the Child Welfare Branch during the year 1939.

From the results of the year's work and from the figures given below we are justified in feeling that our work is getting more and more recognized by the public and has the desired effect on the mothers.

The staff remains the same as in the previous year.

Ante-natal Clinics.—There is an increased tendency shown by the mothers to attend the clinics. 1,279 more examinations have been conducted this year than last year. The mother seems to realize and understand that in her own interests and that of the expected child it is necessary that she should attend an ante-natel clinic periodically for examination and advice. Time was when a Health Visitor was avoided by the mother and looked upon as an intruder, but to-day the general rule is that she anxiously awaits the nurse for help and instruction. I am happy to comment that Muslim mothers throughout the city are attending our clinics in increasing numbers. This is particularly so in the New Bazaar Area.

The following is a return of the ante-natal attendance at the clinics. The figures include visits and revisits :—

Centre.	Attendance.
St. Paul's	3,011
Slave Island	1,671
Maradana	2,370
Prince of Wales avenue	2,706
Modera	2,552
Wellawatta	1,782
Total for the year ...	14,092

The following is a comparative statement of the number of ante-natal examinations done :—

Year.	Attendance.	Year.	Attendance.
1931	3,823	1936	10,398
1932	4,621	1937	11,942
1933	6,499	1938	12,813
1934	7,654	1939	14,092
1935	8,548		

Midwives' Cases.—The number of cases conducted by the Municipal Midwives for the year 1939 is 2,964 as compared to 2,894 for 1938. Statement (1) shows the number of cases conducted by our midwives during the year.

Maternity Homes.—The main wards in the three Maternity Homes can accommodate only 17 patients at a time (Modera 6, Prince of Wales avenue 6, and St. Paul's 5). Besides this two patients can be housed in the isolation room of each Home. Each patient usually remains in the Home for 10 days so that if every bed in the main wards is occupied right through the year the total number that can be accommodated will be 612. During last year 660 cases were delivered in the Homes.

The following is a comparative statement of cases delivered in the Homes during 1937 to 1939 :—

Maternity Home.	1937.	1938.	1939.
Modera ...	146	218	231
St. Paul's ...	114	180	190
Prince of Wales avenue	154	232	239
Total ...	414	630	660

Before leaving the Home each mother is given practical hints regarding the feeding and care of the baby. Though there is evidence that some of the mothers do not follow our instructions yet we have sufficient proof that many others have adhered to our advice with beneficial results.

Baby Clinics.—The following is a return of attendance at the baby clinics during the year :—

Centre.	Attendance.
St. Paul's	659
Slave Island	717
Maradana	680
Prince of Wales avenue ...	755
Modera	1,374
Wellawatta	699
Total for the year ...	4,884

Statement (2) shows the number of children to whom free milk was issued at the various centres during the year and statement (3) shows the expenditure on supply of Lactogen.

During this year we have spent Rs. 11,301·12 on infant-feeding. It is a source of regret that many mothers do not yet realize the importance of breast feeding. In certain instances when we had reason to refuse free milk and advised the mother to continue nursing her baby we have been misunderstood. It is admitted that there are instances where the mother has insufficient milk or no milk at all to feed the child but some mothers give up breast-feeding on very flimsy excuses. This we do not encourage. Every mother should *feel confident* that she can nurse her baby and she *must persevere.* Whosoever said that "The woman who does not feed her infant is only half a mother" has said it well. Nature's plan is that the mother should nurse her offspring. This method is the cheapest and the best.

Post-natal Care.—2,156 cases were given treatment. Our Maternity Home patients are seen about 4 weeks after their date of confinement and subsequently if necessary. On leaving the Home each mother is given a date for her visit. I am glad to say that more than 80 per cent. of the cases attended the clinic along with the baby on the due date.

Hookworm Treatment.—Tetrachlorethylene has now replaced oil of Chenopodium in the treatment of Hookworm disease. During the year 970 cases were treated with satisfactory results.

Health Talks.—These talks are given by a Public Health Nurse once a week at each centre. It is exceedingly difficult to get the mothers to attend the talks regularly. They seem to attach little importance to them but we cannot be disappointed. We have laboured to make the mothers understand the purpose of our clinics, *i.e.*, the teaching of Mother-Craft and Infant Hygiene. It is hoped that these talks will be better attended in future.

Our work during the forenoon is really heavy. Each morning a combined ante-natal and baby clinic is held. On some occasions the attendance at the ante-natal clinic alone exceeds one hundred. It is obvious that two Medical Officers cannot do justice to their patients and at the end of a morning's work we ourselves sometimes feel not satisfied. With additional staff our work could be executed with more thoroughness and other investigations which now remain undone could be undertaken.

In spite of all our efforts the maternal mortality rate remains high. I have before this commented on the poor physical condition of most of our mothers. An expectant mother should have plenty of simple nourishing food and be relieved of mental worry. A strong and healthy mother, a strong and healthy child. Unfortunately it is just the opposite picture we see. Sixty per cent. or more of the mothers who attend our clinics are totally unfit for child-bearing. Amongst them the problem of malnutrition is very acute. Some action has to be taken to raise their social and economic conditions and save the city from racial decay.

J. E. D. MENDIS,
L.R.C.P. & S. (Edin.), L.R.F.P. & S. (Glas.),
D.T.M. & D.T.H. (L'pool),
March 7, 1940. Medical Officer, Maternity and Child Welfare.

(1) *Number of Cases conducted by Municipal Midwives during the Year 1939.*

Centre.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Child Welfare Centre, St. Paul's	45	46	40	26	49	37	46	55	44	45	54	57	544
Child Welfare Centre, Maradana	53	42	39	44	45	44	47	61	49	62	59	61	606
Child Welfare Centre, Slave Island	49	43	37	40	36	32	31	38	41	42	38	53	480
Child Welfare Centre, Mutwal	13	10	12	12	10	10	8	15	13	6	12	10	131
Child Welfare Centre, Wellawatta	25	19	19	21	20	13	18	23	16	19	20	20	233
Child Welfare Centre, Prince of Wales avenue ...	20	18	22	28	24	21	23	28	26	34	28	38	310
Maternity Home, Mutwal ...	25	15	16	12	21	17	21	25	16	19	27	17	231
Maternity Home, St. Paul's...	21	13	19	9	15	17	14	17	21	12	15	17	190
Maternity Home, Prince of Wales avenue ...	20	18	13	15	20	18	22	30	20	19	19	25	239
Total ...	271	224	217	207	240	209	230	292	246	258	272	298	2,964

(2) *Number of Children to whom Free Milk was issued during the Year 1939.*

Centre.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
St. Paul's ...	25	30	30	26	27	27	28	27	30	29	29	24	332
Maradana ...	22	31	27	27	27	30	27	24	28	23	24	27	317
Slave Island ...	25	30	28	28	29	31	35	43	44	42	39	39	413
Mutwal ...	42	50	55	54	57	62	62	58	54	58	54	69	675
Wellawatta ...	29	25	27	31	35	34	37	40	39	37	31	28	393
City Mission, Dam Street...	11	9	12	10	11	11	14	14	21	21	20	16	170
Prince of Wales avenue ...	19	25	25	21	27	29	31	38	42	45	43	48	393
Total ...	173	200	204	197	213	224	234	244	258	255	240	251	2,693

(3) *Statement of Expenditure on Milk supplied to Infants by the Child Welfare Branch during the Year 1939.*

Month.	Lactogen. Quantity. lbs.	Lactogen. Cost. Rs. c.
January	900	864 0
February	720	691 20
March	576	552 96
April	936	898 56
May	720	691 20
June	756	725 76
July	828	794 88
August	900	864 0
September	1,008	967 68
October	936	898 56
November	1,116	1,071 36
December	2,376	2,280 96
Total	11,772	11,301 12

Annexure A.

REPORT OF THE CITY MICROBIOLOGIST FOR 1939.

1.—LABORATORY.

I HAVE the honour to submit the following report for the year 1939.

For reasons of war economy, the suggestion of the Municipal Commissioner to exchange a Division I. Clerk by a Division II. Clerk and to suppress the recently created post of office boy was carried out. Mr. J. E. Speid was accordingly transferred to another department and his vacancy has meanwhile been filled by a Division II. Clerk from the Treasurer's Department.

There were no major repairs or additions to the existing building. The tiling of the kitchen has at last been done and it has definitely improved the hygenic value of the place.

As regards equipment, the necessary replacements have been made but no new equipment has been acquired. After the outbreak of the War purchases were restricted as much as possible. Goods ordered from England at the beginning of September did not arrive before the end of January. Though the prices had gone up, our expenditure has remained within the amount sanctioned by Council.

Routine Work.—There has been again an increase in the routine examinations of specimens. Compared with last year's 4,485 clinical specimens this year's statistics show that 4,705 specimens were examined, thus indicating the increasing popularity of this service amongst medical practitioners.

It has always been our endeavour to keep our technique as up to date as possible by introducing new methods whenever their superiority has been conclusively proved. Our attention has been particularly concentrated on the improvement of the diagnosis of intestinal diseases, and I am glad to say that our achievement has been noteworthy and will be mentioned later under the heading "Research Work". The increase in the percentage of positive results for typhoid from 27 per cent. to 34 per cent. may be partly due to such improvements. On the other hand, it seems likely that typhoid is tending to increase yearly. There is support for this view from the increase of notifications shown in the report of the Epidemiologist. Of course, it is extremely difficult to form an opinion on the strength of specimens submitted for examination, nevertheless such observations might lead us in the right direction for further investigation. I am fully aware of the difficulties one encounters when dealing with endemic typhoids. This problem is generally a big one, but it is more so when the legislation is so restricted as it is at present in Colombo. The disease is mostly being spread by contaminated food and the lack of a Food Act is most regrettable.

It has been known for a long time that the "*typhoid carrier*" is the most dangerous source of infection, especially when such carriers are dealing with the preparation and handling of food. Such carriers are either persons who have actually suffered from the disease or those who apparently have been in good health all along. The latter, therefore, cannot be aware of their condition and the potential danger attached to their person is a great one. It would be most important to detect such carriers among cooks, waiters, bakers, milkers, &c., but so far only persuasion can be used to induce such people to submit to examination with the exception of milk vendors who have to produce a certificate in order to obtain their licence.

Should a further increase of typhoid infection occur, it seems worth while contemplating more extensive measures of fighting the disease. If vaccination on a large scale could only be enforced, great benefit will be derived from it. I would like to suggest introducing the endotoxoid vaccination which has proved to be most effective in South Africa. The preparation of the endotoxoid vaccine is more complicated than the preparation of the ordinary vaccine, but it seems to have considerable advantages over it.

Plague.—The plague situation has been most satisfactory during 1939. There were no cases of human plague and no typical cases of rat plague. Although there is no plague in this country at present it is still too premature to write the "History of Plague in Ceylon" and to assess the value of anti-plague work done by the various bodies. Of course it is most gratifying to note that the number of deaths from plague in Colombo has dropped from 33 in 1936, to 27 in 1937, to 8 in 1938, and to zero in 1939. But on the other hand it should not be forgotten that there are ups and downs of epidemics all throughout history, the causes of which are mostly unknown to us. If we try to account for the decrease of the virulance of the plague infection which has been observed in other parts of the world for the last ten years (*e.g.*, South Africa) we are as much at a loss as when looking for an explanation for the sudden rise and decline in the virulence experienced in the malaria epidemic in Ceylon, a few years ago. In my opinion the virulence of plague in Ceylon, both human as well as rat, has undergone a definite decline during the last few years. This observation is typical of the "tail end" of an epidemic as pointed out by my predecessor. Already in 1937 and 1938 the number of typical microscopic lesions in rats was small and confirmation of microscopically suspected cases by animal tests could not be obtained in many instances though the rats were collected from premises where human cases had occurred. This peculiar variation in the virulence may be further exemplified by the following case :—There was a human case of plague about the end of 1936 and when guinea pigs were inoculated with the material no signs of infection or death occurred whilst the culture made from it proved the presence of plague bacilli. It would therefore seem advisable to keep a close watch on the plague situation as we cannot be too sure whether rat plague is altogether extinct or only mitigated to such an extent that the usual procedure of establishing the diagnosis fails.

Flea Survey.—The general flea survey of the various wards has now been completed. The schedule now covers the full survey extending from 1937 to 1939. For comparison the schedule of the last survey done by Dr. Hirst is given. It will be seen from the figures that the Pettah area still tops the list as regards cheopis infestation, although there is a slight drop in the cheopis index from 0·86 to 0·76.

All the other wards are lagging much behind as before although some variations have occurred, but no special importance need be attached to it as the figures are below 0·2. It seems therefore that there has not been an appreciable change in the distribution of the flea population.

Tuberculosis.—The tuberculosis problem has become one of the most urgent health problems of the city. The interest of the general public, once awakened, has manifested itself in a large number of letters addressed to the editors of the leading papers, and has met with response. Publicity, as a part of propaganda, is most welcome and should be encouraged. Whatever steps may be taken by the authorities they won't succeed without the wholehearted collaboration of the general public and such collaboration can only be obtained by effective propaganda.

The number of specimens submitted for tubercle bacilli has slightly increased and so has the percentage of positive findings but one has to be careful in drawing conclusions from these observations. For routine purposes, in addition to the examination of slides made from the original material and the examination of the concentrated material, the method of culturing the bacilli has been introduced, and it is expected to obtain a certain number of positive culture results where the other methods fail. From the various media which have been recommended for culture the medium of Petragnani was chosen.

Water Supply.—At the beginning of the year the water situation was still serious owing to the drought in 1938. A large amount of river water had to be added to the supply from Labugama. After the perfection of the connection to the Kalatuwawa catchment, water from three sources was supplied for a short period. The river water supply was first discontinued and later the Kalatuwawa supply. Several tests were made to assess the amount of chlorine required for the sterilization of the river and Kalatuwawa water, and by strict observance of the treatment arrangements any danger arising from the water supply has been averted. The acquisition of the new catchment area and subsequent removal of its inhabitants will safeguard this new source of supply from undesired polluiton. The treatment, in consequence, has to be adapted to the new conditions.

2.—ANALYSIS OF ROUTINE WORK.

(*a*) *General Distribution of Routine Specimens examined during 1939.*

Clinical specimens ...	4,705	Public Health Department—	
Town water ...	672	Rats for flea index ...	2,455
Rodents for plague—		Number of fleas ...	6,085
Port Commission ...	1,261		
Public Health Department...	29,804	Total ...	44,982

(*b*) *Distribution of Clinical Specimens, 1939.*

		Number examined.	Number Positive.
Diagnostic service for practitioners ...	Enteric	461	157
	Human plague	—	—
	Tuberculosis	293	49
	Dysentery	620	48
	Diphtheria	200	57
	Ova	109	37
	Malaria	42	3
	Various	298	87
Public Health Department ...	Enteric	1,357	51
	Human plague	—	—
	Tuberculosis	10	1
	Dysentery	1	—
	Diphtheria	994	53
	Ova	31	7
	Malaria	17	2
	Various	272	78
	Total ...	4,705	630

(*c*) *Distribution of Rodents examined for Plague in 1939.*

By mode of Capture.

	Species.	Number examined.	Number infected.	Percentage infected.
Trapped rats ...	R. rattus ...	9,970	—	—
	R. norvegicus ...	4,918	—	—
	M. musculus ...	64	—	—
	Bandicoots ...	15	—	—
Rats found dead...	R. rattus ...	45	—	—
	R. norvegicus ...	28	—	—
	M. musculus ...	3	—	—
	Bandicoots ...	—	—	—
Rats killed by fumigation ...	R. rattus ...	2,779	—	—
	R. norvegicus ...	8,548	—	—
	M. musculus ...	4,668	—	—
	Bandicoots ...	27	—	—
	Total ...	31,065	—	—

By Species and Source.

		Trapped Alive.			Found Dead.			Killed by Fumigation.		
		Number examined.	Number infected.	Percentage infected.	Number examined.	Number infected.	Percentage infected.	Number examined.	Number infected.	Percentage infected.
R. rattus ...	Public Health Department.	9,763	—	—	43	—	—	2,551	—	—
	Port Commission ...	207	—	—	2	—	—	228	—	—
R. norvegicus...	Public Health Department.	4,832	—	—	28	—	—	8,503	—	—
	Port Commission ...	86	—	—	—	—	—	45	—	—
M. musculus ...	Public Health Department.	46	—	—	3	—	—	4,001	—	—
	Port Commission ...	18	—	—	—	—	—	667	—	—

Fifteen bandicoots trapped and twenty-seven killed by fumigation were negative for plague.

Rat-flea Survey, 1937–1939.

Ward.	No. of R. rattus trapped.	Total No. of Fleas.	Total No. of X. astia.	Total No. of X. cheopis.	Per cent. X. cheopis.	Total Flea Index.	X. astia Index.	X. cheopis Index.
Pettah ...	847	2,279	1,635	644	28·3	2·69	1·93	0·76
St. Paul's ...	408	989	927	62	6·3	2·42	2·27	0·15
Slave Island ...	472	1,212	1,181	31	2·5	2·57	2·50	0·07
San Sebastian ...	271	555	520	35	6·3	2·04	1·92	0·13
Maradana ...	718	1,505	1,440	65	4·3	2·10	2·01	0·09
Kollupitiya ...	2,185	3,346	3,212	134	4·0	1·53	1·47	0·06
New Bazaar ...	217	450	411	39	8·7	2·07	1·89	0·18
Kotahena ...	402	819	783	36	4·4	2·04	1·95	0·09

Rat-flea Survey, 1928–1929.

Ward.	No. of R. rattus trapped.	Total No. of Fleas.	Total No. of X. astia.	Total No. of X. cheopis.	Per cent. X. cheopis.	Total Flea Index.	X. astia Index.	X. cheopis Index.
Pettah	943	3,023	2,215	808	26·7	3·21	2·35	0·86
St. Paul's	758	2,007	1,599	408	20·3	2·65	2·11	0·54
Slave Island	493	1,154	1,128	26	2·2	2·34	2·29	0·05
San Sebastian	277	564	543	21	3·7	2·04	1·96	0·08
Maradana	501	928	917	11	1·2	1·85	1·83	0·02
Kollupitiya	1,140	2,577	2,541	36	1·4	2·26	2·23	0·03
New Bazaar	299	641	623	18	2·8	2·14	2·08	0·06
Kotahena	760	1,444	1,403	41	2·8	1·70	1·85	0·05

3.—Research Work.

Typhoid.—In order to improve the bacteriological diagnosis of typhoid an investigation was made by Dr. S. Tyagaraja to inquire into the possibilities of evolving a simpler medium that combined selectivity and stability than the media at present recommended for such purposes. The experiments conducted confirm the undoubted value of Wilson & Blair's medium and its modifications as regards selectivity, but these media are neither stable nor easily prepared, quite apart from the fact that their inhibitory action is directed towards B. coli and not B. aerogenes. This organizm is frequently encountered in Ceylon and further investigations seemed highly desirable in order to evolve a medium that is particularly effective in the suppression of this organizm. These aims have been achieved and this new medium has been designated the " B. B. S. " medium. It should now be possible with this medium to give a diagnosis within 48 hours. A paper entitled " A simple modification of Wilson & Blair's medium for the isolation of typhoid and paratyphoid organizms " has been perfected and will appear in one of the scientific journals.

Malaria.—Last year I reported on our investigations into the serological diagnosis of malaria. The studies have been continued during 1939 and our previous opinion of the value of Henry's test and the Buffer Precipitation test has been fully confirmed. Again we enjoyed the collaboration of the various members of the staff of the General Hospital and the Lying-in Home and it seems that the value of these tests is now fully appreciated.

A paper on my Buffer Precipitation test has been published in the Proceedings of the Royal Society of Tropical Medicine. Meanwhile a simplified modification has been worked out and a paper describing the simplified test is in preparation.

The principle of the Buffer Precipitation test in chronic malaria is the readiness of some sera to be precipitated by certain buffer solutions which show no visible reaction with normal sera. In the first publication on the test curves have been reproduced showing the reaction of normal malarial sera when mixed with buffer solutions of different pH covering a range from pH 6·0 to pH 8·2. From these curves it may be gathered that the precipitation of normal sera fades out round about 7·4 whilst malarial sera show precipitations up to 8·0 or further on towards the alkaline side. For the simplified test pH 7·7 was chosen as test concentration and a control tube was introduced in order to facilitate the reading of slight turbidities by means of comparison. Therefore, the test is being performed in two test tubes, one containing the test buffer solution and one containing a special control solution. After the addition of two drops of clear serum the test is ready for reading within $\frac{1}{2}$ hour. It is hoped that the simplicity and cheapness of the procedure might induce laboratory workers in other countries to give the test a trial. In my opinion most valuable information can be obtained by such serological examinations on the malaria infestation of a district. The

Government Medical authorities provided for me the opportunity of studying this question in a malaria district and I was able to satisfy myself as regards its usefulness. For the year 1939 a total of 1,109 sera were examined for malaria by these two tests.

Bacteriophage.—Towards the end of the year we started on a new line of investigation. Recent advances in the use of bacteriophage gave us the encouragement to study the phenomenon of typhoid bacteriophage in view of its therapeutic importance. These experiments are still in their initial stage, but we hope to be able to continue them during 1940.

PUBLICATIONS.

(1) E.K. Wolff: Buffer Precipitation Test (B.P.T.) for Malaria (1939) Transact. Roy. Soc. Trop. Med. & Hyg. 32, 707.

(2) E. K. Wolff: A Strain of Tropical Typhus recovered from Rat Fleas (1939) Ceylon J. Sci. Section D, 5, 39.

E. K. WOLFF,
City Microbiologist.

April 8, 1940.

Annexure B.

REPORT OF THE ACTING CITY ANALYST FOR 1939.

THIS report is being submitted by the Acting City Analyst owing to the absence in England of the City Analyst Mr. Bruce whose return has been delayed owing to the war.

A total of 1,335 samples were examined during the year compared with 1,656 in the previous year. The decrease being due to the diversion of the Inspectors to special water control duties during the first three months of the year owing to the drought. The samples consisted of 1,086 milk samples, 204 water samples (192 drawn from the city mains throughout the Municipal area, 5 well waters, 5 from Maligakanda Reservoir, and 2 from Labugama), and 45 miscellaneous samples consisting of gas, vinegar, animal ash, table waters, food dye, sewages and butter. (See Table 1.)

WATER SUPPLY.

Owing to the drought the water supply cannot be compared with that of previous years. The water started to depreciate in September, 1938, and in December, 1938, Kelani water was added. Early in 1939 water from the Kalatuwewa-ela was diverted into the city mains. None of the water was filtered, only receiving a large dose of chlorine to sterilise it. The water had a colour which varied from that of weak tea to a muddy colour according to the state of the water in the river and was only considered safe for drinking by boiling and straining which coagulated some of the organic matter and made the water more palatable. The analysis varied a great deal but generally speaking the figures showed fairly high ammonia figures with high nitrates. The chlorine figure did not vary much and nitrites were never found. The total solids did not vary to the extent one would have expected, only occasional samples with large amount of suspended matter giving high figures. After the start of the south-west monsoon it was possible to return to the Labugama supply only and the water soon returned to more or less normal figures. During the period between the south-west monsoon and the commencement of the north-east monsoon Kalatuwewa water was added as conditions allowed in order to conserve the Labugama supply. This addition caused the analysis to vary to a certain extent, the variation showing mostly in the presence of free ammonia and higher nitrates and albuminoid ammonia. During the last two months of the year Labugama water was only supplied and the water showed its usual high state of purity.

During the year ammonia apparatus was installed to work in conjunction with the chlorine plant for the formation of chloramine for more efficient sterilization of the water.

The well waters examined were mostly unsatisfactory.

SEWAGES.

Twelve sewages were examined, six in March and six in December. The March samples were approximately twice the strength of the usual sewages owing to the drought. The December samples were similar to those received in previous years. The purification between the bellmouths and the issuing effluents being about fifty per cent. The Wellawatta crude sewage is approximately the same strength as the Madampitiya effluents.

GAS SUPPLY.

Gas tests were carried out monthly throughout the year. No sulphuretted hydrogen was found and the ammonia was always within the limits prescribed by the Municipality.

MILK SUPPLY.

A total of 1,086 milk samples were examined during the year, of these 379 or 34·9 per cent. did not comply with the standard for solids not fat and 240 or 22·1 per cent. were deficient in fat. The total milks which did not come up to the required standard was 486 or 44·8 per cent. Itemized the failures were as follows : 1–10 per cent. failures in solids not fat 22·7 per cent., 11–30 per cent. 10 per cent. over 30 per cent. 2·2 per cent., the maximum adulteration was 58 per cent. water added. Of the milks deficient in fat 1–10 per cent. 10·6 per cent., 11–30 per cent. 9·3 per cent., and over 30 per cent. 2·2 per cent., the maximum deficiency being 69 per cent. Cane sugar was again found as an adulterant.

It is not usual for this department to single out any individual Inspector for praise or otherwise but this year the rule is being broken as I think that a word of praise is due to the Food Inspector for the campaign he waged mostly against the unlicensed dairy and vendor. He seized a total of 202 samples (excluding eleven special samples), of which only 88 passed and 114 failed, of the 114 which failed 68 were of prosecution standard. These figures compare very favourably with the general figures given above.

During the year several samples of pasteurised milk were examined, these although complying with the milk standard did not always comply with the special Phosphatase test for proper pasteurising or the Reductase test for bacteria content. The Municipality has unfortunately no power to deal with pasteurised milk, except when it does not comply with the standards for solids and fat, and milk which had been found to be defective not only continued to be sold but was widely advertised in the Press for its purity and safety.

As 1939 is the end of another decade an extra table is included showing comparative figures for the Colombo Milk Supply for the last 10 years.

These show that in spite of the heavy fines which are now imposed that adulteration is still very common in Colombo and little or no headway has been made in eliminating the dairyman who adulterates his milk.

MISCELLANEOUS SAMPLES.

Commercial acetic acid was again detected in vinegar. Salicylic acid was detected as a preservative in table waters, this was traced to the use of Bush's Preservative, a preservative used largely in Colombo by table water manufacturers, and which gives no indication of the nature of the preservative it contains. Boric acid was detected as a preservative of butter and arachis oil as an adulterant. A sample of Food Dye was found to be Metanilin Yellow.

The lack of a Foods and Drugs Act in Colombo is keenly felt as certain samples which are obviously adulterated or contain preservatives which are harmful, &c., can often not be classed as unfit for human consumption which is the only way that it is possible to have the goods withdrawn from the market. Ceylon is one of the few if not the only part of the British Empire which has not a Foods and Drugs Act and as the Empire's Premier Crown Colony this is not a good advertisement.

ALBERT J. CAMERON,
Acting City Analyst.

January 22, 1940.

Table I.

Sample Index.

Month.	Town Waters.	Well Waters.	Miscellaneous.	Milk.	Total
January	16	1 (Aby. Tube)	1 gas	14	32
February	16	1 (Aby. Tube)	1 gas, 1 animal ash	17	36
March	16	2 (Aby. Tube) 1 well	1 gas, 1 vinegar 6 sewages	39	66
April	16	—	1 gas	71	88
May	16	—	1 gas	115	132
June	17	—	1 gas, 6 table waters, 1 colouring matter	108	133
July	16	—	1 gas	136	153
August	16	—	1 gas, 6 table waters	119	142
September	16	—	1 gas	121	138
October	16	—	1 gas, 2 butter, 2 table waters	121	142
November	16	3 Labugama and Reservoir 1 well	1 gas, 2 butter	124	147
December	15	3 Reservoir	1 gas, 6 sewages	101	126
Total	192	12	45	1,086	1,335

MILK ANALYSES.

Table II.

Added Water, 1939.

Months.	Total.	Pass.		1-10 Per Cent.		11-30 Per Cent.		+ 31 Per Cent.		Maximum Per Cent.
		No. of Samples.	Per Cent. of Samples.	No. of Samples.	Per Cent. of Samples.	No. of Samples.	Per Cent. of Samples.	No. of Samples.	Per Cent. of Samples.	
January	14	8	57·1	2	14·3	4	28·6	—		22
February	17	13	76·5	1	5·9	3	17·6	—		26
March	39	19	48·7	17	43·6	2	5·1	1	2·6	53
April	71	42	59·1	21	29·6	7	9·9	1	1·4	42
May	115	80	69·6	21	18·2	11	9·6	3	2·6	43
June	108	71	65·7	21	19·5	14	12·9	2	1·9	38
July	136	90	66·2	29	21·3	13	9·6	4	2·9	48
August	119	91	76·5	20	16·8	7	5·9	1	0·8	54
September	121	70	57·8	27	22·3	21	17·4	3	2·5	48
October	121	71	58·7	38	31·4	8	6·6	4	3·3	58
November	124	87	70·2	21	16·9	11	8·9	5	4·0	48
December	101	65	64·4	28	27·7	8	7·9	—		30
Total (1939)	1,086	707	65·1	246	22·7	109	10	24	2·2	58
Total (1938)	1,398	1,002	71·7	296	21·2	84	6·0	16	1·1	58

Table III.

Fat Deficiency—Milk as Sold, 1939.

Months.	Total Milks.	Pass.	1-10 Per Cent.	11-30 Per Cent.	+ 31 Per Cent.	Maximum Per Cent.
		No. of Samples. Per Cent. of Samples.	No. of Samples. Per Cent. of Samples.	No. of Samples. Per Cent. of Samples.	No. of Samples. Per Cent. of Samples.	
January ...	14	14=100	—	—	—	—
February ...	17	14=82·3	1=5·9	1=5·9	1=5·9	32
March ...	39	33=84·6	5=12·8	—	1=2·6	40
April ...	71	55=77·5	6=8·5	7=9·8	3=4·2	40
May ...	115	94=81·7	14=12·2	7=6·1	—	26
June ...	108	96=88·9	4=3·7	8=7·4	—	29
July ...	136	117=86	9=6·6	8=5·9	2=1·5	53
August ...	119	95=79·8	12=10·1	9=7·6	3=2·5	69
September ...	121	88=72·7	14=11·6	16=13·2	3=2·5	39
October ...	121	83=68·6	19=15·7	16=13·2	3=2·5	53
November ...	124	84=67·8	19=15·3	15=12·1	6=4·8	49
December ...	101	73=72·3	12=11·9	14=13·9	2=1·9	50
Total (1939)..	1,086	846=77·9	115=10·6	101=9·3	24=2·2	69
Total (1938)..	1,398	1,153=82·5	148=10·6	85=6·1	12=0·8	51

Table IV.

Fat Deficiency—Original Milk, 1939.

(Calculated free from Water-added.)

Months	Total Milks.	Pass.	1-10 Per Cent.	11-30 Per Cent.	+ 31 Per Cent.	Maximum Per Cent.
		No. of Samples. Per Cent. of Samples.	No. of Samples Per Cent. of Samples.	No. of Samples Per Cent. of Samples.	No. of Samples. Per Cent. of Samples	
January ...	14	14=100	—	—	—	—
February ...	17	15=88·2	—	2 =11·8	—	25
March ...	39	37=94·9	2=5·1	—	—	6
April ...	71	57=80·3	4=5·6	7=9·9	3=4·2	39
May ...	115	99=86·1	11=9·6	5=4·3	—	21
June ...	108	98=90·8	5=4·6	5=4·6	—	29
July ...	136	124=91·2	7=5·1	4=2·9	1=0·8	46
August ...	119	95=79·8	18=15·2	5=4·2	1=0·8	67
September ...	121	100=82·6	12=9·9	9=7·5	—	26
October ...	121	92=76·1	15=12·4	12=9·9	2=1·6	40
November ...	124	90=72·6	22=17·7	11=8·9	1=0·8	34
December ...	101	78=77·2	9=8·9	13=12·9	1=1·0	49
Total (1939)...	1,086	899=82·8	105=9·7	73=6·7	9=0·8	67
Total (1938)...	1,398	1,110=82·5	155=10·6	111=6·1	22=0·8	51

Year.	Total Milks.	Pass. Per Cent.	Total Milk with Water Added. Per Cent.	Total D. I. F. Per Cent.	D. I. F. Only. Per Cent.	Total which do not come up to standard. Per Cent.
1930	1,261	519=41·2	636=50·4	318=25·2	106=8·4	742=58·8
1931	1,230	604=49·1	534=43·4	249=20·2	92=7·5	626=50·9
1932	1,269	710=55·9	444=35	255=20·0	115=9·1	559=44·1
1933	895	541=60·4	250=28	184=20·4	104=11·6	354=39·6
1934	1,075	728=67·7	235=21·8	173=16·1	112=10·5	347=32·3
1935	1,107	651=58·8	283=25·7	272=24·5	173=15·5	456=41·2
1936	1,275	762=59·8	346=27·1	277=21·6	167=13·1	513=40·2
1937	971	562=57·9	325=33·4	175=18·2	84=8·7	409=42·1
1938	1,398	840=60·1	396=28·3	245=17·5	162=11·6	558=39·9
1939	1,086	600=55·2	379=34·9	240=22·1	107=9·9	486=44·8

The total milks which are deficient in fat also include a certain number of milks which have water added as well as deficient in fat, it is therefore necessary to subdivide these into milks which are deficient in fat only. The sum of the milks with water added plus the milks which are deficient in fat only give the total number which do not come up to the standard.